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CATALOG OF NAVAL OCEANOGRAPHIC OFFICE PUBLICATIONS.(U)  
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PREPARED BY  
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NAVAL OCEANOGRAPHIC OFFICE  
NSTL STATION, BAY ST. LOUIS, MS 39522

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PREPARED FOR  
COMMANDER  
NAVAL OCEANOGRAPHY COMMAND  
NSTL STATION, BAY ST. LOUIS, MS 39529



# FOREWORD

This edition of the "Catalog of Naval Oceanographic Office Publications" is an updated version of the June 1975 edition. It will be supplemented by annual updates containing additional titles and information. Classified publications are listed in SP-3-P(81)S.

A handwritten signature in dark ink, appearing to read 'W. C. Palmer', with a long horizontal flourish extending to the right.

W. C. Palmer  
Captain, USN  
Commanding Officer

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## INTRODUCTION

This catalog lists unclassified official Naval Oceanographic Office publications available to government agencies and the public. These publications were prepared to support the mission of the U.S. Navy, and are useful to the scientific, oceanographic, and maritime communities.

In July 1972 the hydrographic charting components were separated from the Naval Oceanographic Office to form the Defense Mapping Agency, Hydrographic Center (DMAHC). Charts and publications issued and maintained by DMAHC are listed in the DMA catalog of maps, charts, and related products (CATPB1NL).

Publications are listed by major categories: (I) Naval Oceanographic Office Publications (NOP); (II) Special Publications (SP); (III) Technical Reports (TR); and (IV) Reference Publications (RP). Items are arranged in numerical order and each includes a brief abstract. Listed publications are also cross-indexed by author and subject.

Recommendations for additions, deletions, or corrections to this catalog should be directed to:

Commanding Officer  
Naval Oceanographic Office  
NSTL Station  
Bay St. Louis, MS 39522

ORDERING PROCEDURES  
for  
GOVERNMENT AGENCIES

Department of Defense activities, other government agencies, contractors, and grantees may order publications by letters, message, or requisition form signed by a cognizant officer (Commanding Officer, Navigator, Intelligence Officer, or authorized designee). Over-the-counter issues can be obtained at the Defense Mapping Agency (DMA) sales office located in Brookmont, Md. Publications are supplied on an official issue basis with no reimbursement required. All requests should be forwarded per instructions contained in DMA publication 1-N-A or to:

DMA OFFICE OF DISTRIBUTION SERVICES  
Attn: DDCP  
Washington, DC 20315

Message address: DMAODS Washington, DC  
Attn: //DDCP//  
Telephone: Commercial - (202) 227-2495;  
Autovon - 287-2495;  
DID - 257-2495

In addition to current publications, out-of-print or obsolete publications listed in this catalog and preceded by the symbol + or # can be obtained at cost by agencies or others registered with DTIC from:

Defense Technical Information Center  
Defense Logistics Agency  
Cameron Station  
Alexandria, VA 22314

Publications are supplied as hard copy or microfiche at cost of reproduction. The search control number (e.g., AD 613 615) should be included in the order.

+ Publications are also available for sale from DTIC  
# Publications are only available for sale from DTIC

Inquiries may be directed to the Naval Oceanographic Office for additional information about the listings in this catalog. Telephone: Autovon - 485-4015; FTS - 495-4015; commercial - (601) 688-4015.

ORDERING PROCEDURES  
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GENERAL PUBLIC

Publications in this catalog may be obtained at cost by writing to the Defense Mapping Agency, Office of Distribution Services, Washington, DC 20315, or one of the following sources as indicated by the symbol \*, + or # preceding the title of the entry.

\* Publications are available for sale from:

Superintendent of Documents  
U.S. Government Printing Office  
Washington, DC 20402

+ Publications are also available for sale from:  
# Publications are only available for sale from:

National Technical Information Service  
U.S. Department of Commerce  
5285 Port Royal Road  
Springfield, VA 22161

Publications are supplied at cost of reproduction by hard copy or microfiche. The search control number (e.g., AD 613 615) should be included in the order.

Over-the-counter purchases may be made at the DMA Sales Office, Brookmont, Md., telephone (202) 227-3048.

Inquiries may be directed to the Naval Oceanographic Office for additional information about the listings in this catalog. Telephone (601) 688-4015.

NOTE: Mail orders must be accompanied by check or money order for the amount of the purchase. Expense of special handling (Air Mail, Special Delivery, COD orders, etc.) must be borne by the purchaser. Stocks of certain publications are limited. In the event a publication is out-of-stock, the requestor will be notified.

LISTING OF  
PUBLICATIONS

-- I --

NAVAL OCEANOGRAPHIC OFFICE  
PUBLICATIONS  
(NOP)

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NOP 225

+WORLD ATLAS OF SEA SURFACE TEMPERATURES.  
2d ed., 1944, Reprinted 1954, 1974,  
44 p., (16 1/2" x 21 1/2") \$7.50.  
AD A058 419

World monthly charts of sea surface temperatures prepared from data collected by NAVOCEANO and other sources. Isotherm intervals of 5 F except 2.5 F in regions of small horizontal gradients.

NOP 234

BREAKERS AND SURF, PRINCIPLES IN FORECASTING. 1944, Reprinted 1958, 1975, 66 p., \$.60.

Describes theoretical forecasting procedure and forecast verification, including shallow water conditions.

NOP 236

See SP 1402-NP-10, and SP 1404-IN-2, -4, -5

NOP 237

See SP 1402-NP-7

NOP 566

See SP 1404-IN-1, thru-8

NOP 568

See SP 1403-SP-1, -2, -4, and -5, SP 1404-IN-5, and -8

NOP 569

See SP 1402-NP-4 thru-8, and -10 thru-12

NOP 570

See SP 1402-NP-5, -6, -8, -9, -11, -12, and -13

NOP 601

WIND, SEA AND SWELL: THEORY OF RELATIONS FOR FORECASTING, by H.U. Sverdrup and W.H. Munk. 1947, Reprinted 1952, 1979, 44 p., \$.50.

Describes forecast of sea and swell from weather data, character of waves, and fetch. A combination of theoretics and empirics is used.

NOP 602

\*WIND WAVES AT SEA, BREAKERS AND SURF,  
by H.B. Bigelow and W.T. Edmondson.  
1947, Reprinted 1953, 1974, 177 p.,  
\$2.80.

A simple but comprehensive description  
of sea and swell, their physical nature,  
dimensions, and contours; and of breakers  
and surf and their relation to bottom,  
shore, and meteorology.

NOP 603

+\*PRACTICAL METHODS FOR OBSERVING AND  
FORECASTING OCEAN WAVES BY MEANS OF  
WAVE SPECTRA AND STATISTICS, by W.J.  
Pierson, Jr., G. Neumann, and R.W.  
James. 1955, Reprinted 1960, 1967,  
1971, 284 p., \$3.80.  
AD 739 935

Compendium of facts and theories  
concerning ocean waves based on research  
in Britain and the United States.  
Describes basic concepts and techniques  
of the first major attempt to apply  
wave research to wave forecastings.

NOP 604

TECHNIQUES FOR FORECASTING WIND WAVES  
AND SWELL. 1951, Reprinted, 1963,  
1966, 45 p., \$.75.

Provides formulas and graphs for  
deepwater prediction of sea and swell  
based on wind fetch and duration.

NOP 605

GRAPHICAL CONSTRUCTION OF WAVE REFRACTION  
DIAGRAMS by J.W. Johnson, M.P. O'Brien  
and J.D. Isaacs. 1948, Reprinted 1968,  
45 p., \$.50.

Provides formulas and scales for  
construction of refraction diagrams by  
the wave front method using D and  $K_d$ ,  
or for constructing directly by orthogonals.

NOP 606

GUIDE TO MARINE OBSERVING AND REPORTING,  
by NAVOCEANO, USCG, NOAA, and DMAHC.  
1977, 48 p., free.

A comprehensive revision of  
instructions for collecting navigational  
and oceanographic data formerly  
contained in HOP 606b, 606c, and 606e.

NOP 607

+\*INSTRUCTION MANUAL FOR OBTAINING  
OCEANOGRAPHIC DATA. 3rd ed., 1968,  
Reprinted 1970, 1975, 223 p., \$2.00.  
AD 672 850

Provides standard instructions  
for obtaining basic oceanographic data.

NOP 700  
-Sec. I + OCEANOGRAPHIC ATLAS OF THE NORTH ATLANTIC  
OCEAN: TIDES AND CURRENTS. 1965, Reprinted  
1968, 1975, 1977, 79 p., (12-1/2" x 16")  
\$2.00.  
AD 835 752

NOP 700  
-Sec. II + -PHYSICAL PROPERTIES. 1967, 306 p.,  
(12-1/2" x 16") \$4.00.  
AD 658 219

NOP 700  
-Sec. III + -ICE. 1968, Reprinted 1976, 163 p.,  
(12-1/2" x 16") \$4.00.  
AD 846 816

NOP 700  
-Sec. IV + -SEA AND SWELL. 1963, Reprinted 1969,  
1970, 234 p., (12-3/4" x 16") \$3.00.  
AD 835 753

NOP 700  
-Sec. V + -MARINE GEOLOGY. 1965, Reprinted 1970,  
1975, 75 p., \$4.00.  
AD 625 861

NOP 700  
-Sec. VI + -SOUND VELOCITY. 1967, Reprinted 1974,  
48 p., (12-1/2" x 16") \$2.50.  
AD 650 880

These atlases are compilations of  
published and unpublished oceanographic  
data for the North Atlantic Ocean.

NOP 705  
-Pt. I OCEANOGRAPHIC ATLAS OF THE POLAR SEAS,  
ANTARCTIC. 1957, Reprinted 1961, 70 p.,  
(12-1/2" x 16") \$2.50.

NOP 705  
-Pt. II + -ARCTIC. 1958, Reprinted 1968, 1970,  
154 p., (12-1/2" x 16") \$5.00.  
AD 708 701

Compilations of published and unpublished  
polar oceanographic and meteorological  
data.

NOP 752 MARINE GEOGRAPHY OF KOREAN WATERS. 1951,  
32 p., (18" x 26") (29°N-43°N, 118°E-  
135°E) \$3.50.

NOP 754 MARINE GEOGRAPHY OF INDOCHINESE WATERS.  
1951, 38 p., (16" x 22") ( 5°N-29°N,  
99°E-121°E) \$3.50.

NOP 755 MARINE GEOGRAPHY OF FORMOSAN WATERS.  
1951, 45 p., (16" x 22") (20°N-31°N,  
113°E-128°E) \$3.50.

NOP 757 MARINE GEOGRAPHY OF THE SEA OF JAPAN.  
1951, 53 p., (16" x 22") (3°N-52°N,  
129°E-143°E), \$3.50.

NOP 758

MARINE GEOGRAPHY OF THE SEA OF  
OKHOTSK. 1952, 45 p., (16" x 22")N,  
(20°N-31°N, 113°E-128°E) \$3.50.

Marine geography atlases contain  
monthly or seasonal charts of numerous  
oceanographic parameters.

NOP 765

#APPLICATION OF OCEANOGRAPHY TO MINE  
WARFARE. 1957 (DECL: OPNAV INST 5510.1E  
8/23/73)  
AD 300 030

Discusses elementary principles of  
interaction of environmental factors  
with mines and mine countermeasures.  
Covers bottom and moored mine movement,  
fouling, environmental effects on  
influence mines, minehunting, and  
diving operations. Bibliographies and  
glossary included.

NOP 799B

ATLAS OF SEA AND SWELL CHARTS - SOUTH  
ATLANTIC. 1948, 12 p., (26" x 32") (0°-  
60°S, 25°E-70°W), \$1.20.

NOP 799CE

-NORTHWEST AND SOUTHWEST PACIFIC OCEAN.  
1943, Reprinted 1963, 1969, 1974, 1976,  
12 p., (26" x 32") (0°-60°N, 113°E-155°E) (0°-  
60°S, 120°E-155°E), \$2.50.

NOP 799D

-NORTHEASTERN PACIFIC OCEAN. 1944, Reprinted  
1974, 12 p., (26" x 32") (0°- 60°N, 75°W-  
160°W), \$2.00.

NOP 799G

-INDIAN OCEAN. 1944, Reprinted 1974, 12 p.,  
(26" x 32") (26°N-50°S, 10°E-130°E),  
\$2.50.

Sea and swell atlases show monthly,  
seasonal, or yearly charts, depending  
on data distribution. Winds, sea, and  
swell are shown monthly; persistence  
of waves and wave period-height and  
period-direction are presented seasonally.

NOP 1301

BATHYMETRIC ATLAS OF THE NORTHWESTERN  
PACIFIC OCEAN. 1969, 51 p., (16" x 20-1/2")  
(60°N-4°S, 100°E-160°E) \$2.00.

NOP 1301-S

Small version (8" x 11") of NOP 1301.  
1970, \$1.20.

NOP 1301-2-3      BATHYMETRIC ATLAS OF THE NORTH PACIFIC  
OCEAN. 1973, 172 p., (16"x 25") (0°- 60°N,  
100°E-80°W), \$12.00.

This atlas combines under one cover  
and will replace HOP 1301, HOP 1302,  
(out of print), and HOP 1303 which will  
be issued until stock is exhausted.

NOP 1301-      Small version of NOP 1301-2-3 (8" x 11")  
2-3(S)      1978. \$5.00.  
AD A085 916

NOP 1303      BATHYMETRIC ATLAS OF THE NORTHEASTERN  
PACIFIC OCEAN, by T.E. Chase and  
H.W. Menard. 1971, 48 p., (16" x 25")  
(60°N-4°S, 80°W-140°W), \$2.50.

NOP 1303-S      +Small Version of NOP 1303 (8" x 11")  
1971. \$1.70.  
AD 736 202

Bathymetric atlases show bottom  
topography by 200-fathom contour intervals  
overprinted on sounding lines.

HO Misc. 10712B      See NOP 799B  
HO Misc. 10712C      See NOP 799CE  
HO Misc. 10712D      See NOP 799D  
HO Misc. 10712E      See NOP 799CE  
HO Misc. 10712G      See NOP 799G  
HO Misc. 11275      See NOP 604

LISTING OF  
PUBLICATIONS

-- II --

NAVAL OCEANOGRAPHIC OFFICE  
SPECIAL PUBLICATIONS  
(SP)

- SP 1                   +APPLICATION OF WAVE FORECASTS TO MARINE  
NAVIGATION, by R.W. James. 1957, Reprinted  
1959, 1975, 85 p., \$1.50.  
AD 158 747
- Discusses effects of currents,  
winds, and waves on navigation.  
Synoptic and prognostic wave charts are  
used to select least-time tracks. Graphs  
show relationship between ship speed and  
head, beam, and following waves.
- SP 4                   \*Refer to NOAA Hydrographic Manual.  
Fourth Ed., GPO, Stock No. 003-021-  
00015-7.
- SP 11                  +TABLES FOR RAPID COMPUTATION OF DENSITY  
AND ELECTRICAL CONDUCTIVITY OF SEA  
WATER. 1956, 24 p., (Formerly H.O. Pub.  
619) \$.30.  
AD 103 555
- Tables are presented for machine  
calculation of density and electrical  
conductivity of sea water from observed  
temperature and salinity values.  
Covers salinity range 10‰ to  
40‰ for density and 0‰ to 40‰  
for electrical conductivity.
- SP 22                  AERIAL ICE RECONNAISSANCE OBSERVATIONAL  
TECHNIQUES AND RECORDING AND REPORTING  
PROCEDURES. 1956, Reprinted 1958, 13 p.,  
\$.25.
- Outlines procedures for conducting  
aerial ice reconnaissance and contains  
illustrations of more common sea ice  
conditions.
- SP 32                  +A SELECTIVE BIBLIOGRAPHY OF THE ENVIRONMENTAL  
CONTROLS ON OBJECT STABILITY ON THE SEA  
BOTTOM, by J.K. Duncan. 1960, 117 p.,  
\$1.00.  
AD 247 912
- Covers scientific literature in the  
fields of marine geology, sedimentation,  
hydrology, oceanography, and hydrography.  
Entries are annotated for applicability  
to behavior of bottom installations.

- SP 33                   +AN ANNOTATED BIBLIOGRAPHY OF FLUSHING AND  
DISPERSION IN TIDAL WATERS, by L.J. Fisher.  
1960, 34 p., \$.70.  
AD 260 898
- Covers scientific literature in the  
field of hydraulics, hydrology, and oceanography.  
Entries are annotated for applicability  
to flushing contaminated sea water by  
tides.
- SP 35                   +\*GLOSSARY OF OCEANOGRAPHIC TERMS. 1966,  
240 p., \$3.50.  
AD 640 463
- Defines oceanographic and allied  
terms. Contains abbreviations, acronyms,  
titles, and locations of institutions,  
agencies, activities, etc., involved in  
oceanography-oriented projects.
- SP 53                   SUMMARY OF OCEANOGRAPHIC CONDITIONS IN THE  
INDIAN OCEAN. 1960, 142 p., \$1.15.
- An analysis of marine meteorological  
and oceanographic observations available  
to 1955 compiled as a planning aid for  
the International Indian Ocean Expedition.
- SP 64                   +A STATISTICAL ROSE PROGRAM, by W.E. Yergen.  
1962, 17 p., \$.25.  
AD 401 717
- Describes and evaluates a computer  
program for statistical processing of  
bivariate data fields.
- SP 66                   +\*AIRBORNE GEOMAGNETIC DATA (1953-1961).  
1963, 573 p., \$6.50.  
AD 425 109
- Contains geomagnetic data acquired  
by Project Magnet through 1961.
- SP 66                   +AIRBORNE GEOMAGNETIC DATA. 1965, 265 p.,  
-Supp                   \$2.00.  
AD 714 773
- Contains geomagnetic data for 1962  
and 1963 and corrections for SP 66.
- SP 68                   +\*HANDBOOK OF OCEANOGRAPHIC TABLES, by  
E. J. Bialek. 1966, 427 p., \$6.25.  
AD 655 638
- A ready reference of the more useful  
oceanographic tables.

SP 70-(60) +REPORT OF THE ARCTIC ICE OBSERVING AND  
FORECASTING PROGRAM, 1960. 1962, 208 p.,  
\$2.00.  
AD 436 455

SP 70-(60) + -1961. 1964, 174 p., \$1.85.  
AD 616 262

SP 70-(62) + -1962. 1965, 172 p., \$2.00.  
AD 616 261

SP 70-(63) + -1963. 1965, 188 p., \$2.10.  
AD 620 875

SP 70-(64) + -1964. 1965, 188 p., \$1.50.  
AD 628 536

SP 70-(65) + -1965. 1967, 166 p., \$2.00.  
AD 655 231

SP 70-(66) + -1966, by F.E. Kniskern. 1967, 91 p., \$1.00.  
AD 847 277

SP 70-(67) + -1967, by G.J. Potocsky. 1968, 79 p., \$1.00.  
AD 848 878

SP 70-(68) + -1968, 1969, 104 p., \$1.15.  
AD 864 975

SP 70-(69) + -1969, by F.E. Kniskern. 1970, 173 p.,  
\$3.25.  
AD 877 739

SP 70-(70) + -1970, by G.J. Potocsky. 1972, 249 p.,  
\$4.00.  
AD 750 744

SP 70-(71) + -1971, by P.A. Mitchell. 1974, 216 p.,  
\$4.50.  
AD 042 709

Graphically summarize arctic ice data  
collected during specified periods.  
Methods of data collection, dissemination  
of ice forecasts, and forecast verification  
are discussed.

SP 79 #OCEANOGRAPHY FOR LONG RANGE SONAR SYSTEMS.  
PART I, INTRODUCTION TO OCEANOGRAPHY AND  
PHYSICS OF UNDERWATER SOUND IN THE SEA, by  
B.K. Swanson. 1966, 121 p., \$2.50.  
AD 635 668

Provides background in oceanography  
and underwater acoustics for military  
planning of long-range sonar systems or  
allied fields.

- SP 80-(62) +ANTARCTIC ICE OBSERVATIONS, OCTOBER 1962-MARCH 1963. 1963, 58 p., \$.55.  
AD 436 698
- SP 80-(63) -OCTOBER 1963 - JANUARY 1964. 1965, 27 p., \$.75.
- SP 80-(64) REPORT OF THE ANTARCTIC ICE OBSERVING AND FORECASTING PROGRAM, 1964. 1966, 31 p., \$1.30
- SP 80-(65) + -1965. 1967, 26 p., \$.75.  
AD 814 009
- SP 80-(66) + -1966. 1967, 28 p., \$.80.  
AD 822 773
- SP 80-(67) + -1967, by R.J. Perchal. 1968, 36 p., \$.90.  
AD 850 615
- SP 80-(68) + -1968, by G.J. Potocsky. 1969, 28 p., \$.60.  
AD 865 084
- SP 80-(69) + -1969. 1971, 125 p., \$2.50.  
AD 737 410

Graphically summarize antarctic ice data collected during specified periods. Methods of data collection, dissemination of forecasts, and forecast verification are discussed.

- SP 82 +MANUAL OF SHORT-TERM SEA ICE FORECASTING, by W. I. Wittmann and G.P. MacDowell. 1964, 142 p., \$1.50.  
AD 445 086

An initial attempt to systematically present ice prediction methods.

- SP 84 #OCEANOGRAPHY AND UNDERWATER SOUND FOR NAVAL APPLICATIONS. 1965, 142 p., \$.75.  
AD 627 524

Presents relationship of oceanographic environment and underwater sound to antisubmarine warfare.

- SP 92 OCEAN CURRENTS IN THE ARABIAN SEA AND NORTHWEST INDIAN OCEAN, by W.E. Boisvert. 1966, 29 p., \$.80. (See also SP 1404)

Presents surface currents and wind data from all available sources. Prevailing currents, probable currents, and mean current speed in knots are given. Wind roses cover 5-degree quadrangles.

SP 93 CIRCULATION PATTERNS, JOHNSTON ISLAND,  
WINTER-SUMMER 1965, by R.P. Kopenski and  
M.P. Wennekens. 1966, 240 p., \$110.00  
(with color photos), \$5.00 (without photos).

Discusses regional circulation based on  
aerial reconnaissance, parachute drogues,  
and moored current meters. Key factors  
affecting circulation patterns around  
Johnston Island are presented.

SP 94 +ENVIRONMENTAL ATLAS OF THE TONGUE OF THE  
OCEAN. 1967, 82 p., (12-1/2" x 16") \$1.00.  
AD 814 007

Contains data on bottom materials,  
topography, sound velocity, physical  
properties of sea water, tides, currents,  
and marine and wave climatology. Includes  
coastal and bottom photographs.

The following special publications in the SP 95, -96, and -97  
series report data collected by survey ships under the  
Marine Geophysical Survey Program in the North Atlantic and  
North Pacific Oceans. These surveys covered areas identified  
by letters or Arabic or Roman numerals, see figures 1, 2,  
and 3. For each area, numbered volumes deal with various  
types of data and operations.

SP 95-1-1 +MARINE GEOPHYSICAL SURVEY PROGRAM (1965-  
1967), NORTH ATLANTIC OCEAN, NORWEGIAN SEA  
AND MEDITERRANEAN SEA AREA 1, VOLUME 1.  
ACOUSTIC RESULTS AND SUMMARY REPORT 1968.  
157 p., \$3.00.  
AD 393 872

SP 95-1-5 + -Area 1, Volume 5. GEOLOGY AND GEOPHYSICS.  
1967, 39 p., \$3.00.  
AD 817 824L

SP 95-1-6 + -Area 1, Volume 6. OCEANOGRAPHIC STATIONS  
AND VELOCITY PROFILES. 1967, 180 p.,  
\$3.00.  
AD 818 585L

SP 95-1-7 + -Area 1, Volume 7. DATA CATALOG. 1967, 90 p.,  
\$3.00.  
AD 817 825L

SP 95-1-8 + - Area 1. Volume 8. FIELD OPERATIONS. 1967.  
70 p., \$3.00.  
AD 817 826L

SP 95-2-4 + -Area 2, Volume 4. REVERBERATION. 1968,  
353 p., \$3.00.  
AD 500 109

SP 95-2-5 + -Area 2, Volume 5. GEOLOGY AND GEOPHYSICS.  
1968, 69 p., \$3.00.  
AD 842 567

SP 95-2-6 + -Area 2, Volume 6. OCEANOGRAPHIC STATIONS  
AND VELOCITY PROFILES. 1968, 197 p.,  
\$3.00.  
AD 668 178

SP 95-2-7 + -Area 2, Volume 7. DATA CATALOG. 1968, 84 p.,  
\$3.00.  
AD 666 570

SP 95-2-8 + -Area 2, Volume 8. FIELD OPERATIONS. 1968,  
80 p., \$3.00.  
AD 666 571

SP 95-3-5 + -Area 3, Volume 5. GEOLOGY AND GEOPHYSICS.  
1968, 80 p., \$3.00.  
AD 845 252

SP 95-3-6 + -Area 3, Volume 6. OCEANOGRAPHIC STATIONS  
AND VELOCITY PROFILES. 1968, 195 p.,  
\$3.00.  
AD 843 829

SP 95-3-7 + -Area 3, Volume 7. DATA CATALOG. 1968, 98 p.,  
\$3.00.  
AD 849 362

SP 95-3-8 + -Area 3, Volume 8. FIELD OPERATIONS. 1968,  
84 p., \$3.00.  
AD 844 912

SP 95-5-5 + -Area 5, Volume 5. GEOLOGY AND GEOPHYSICS. 1967,  
34 p., \$3.00.  
AD 650 860

SP 95-5-6 + -Area 5, Volume 6. OCEANOGRAPHIC STATIONS  
AND VELOCITY PROFILES. 1967, 141 p., \$3.00.  
AD 650 861

SP 95-5-6S + -Area 5, Volume 6S, OCEANOGRAPHIC STATIONS  
AND VELOCITY PROFILES, Supplement. 1967,  
18 p., \$3.00.  
AD 817 827L

# MARINE GEOPHYSICAL SURVEY PROGRAM

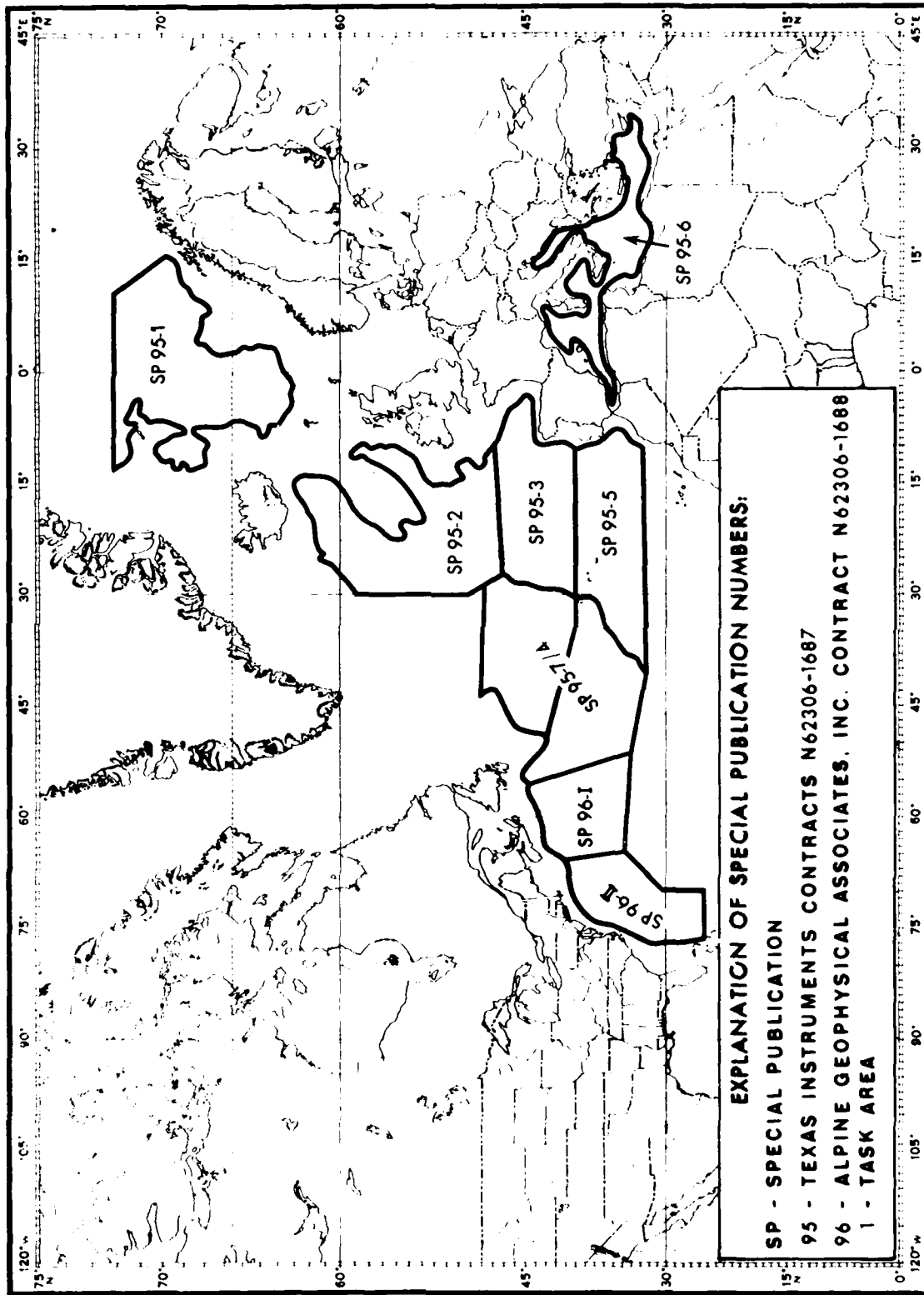


FIGURE 1 DESIGNATED SPECIAL PUBLICATION NUMBERS FOR TASK AREAS IN THE NORTH ATLANTIC

# MARINE GEOPHYSICAL SURVEY PROGRAM

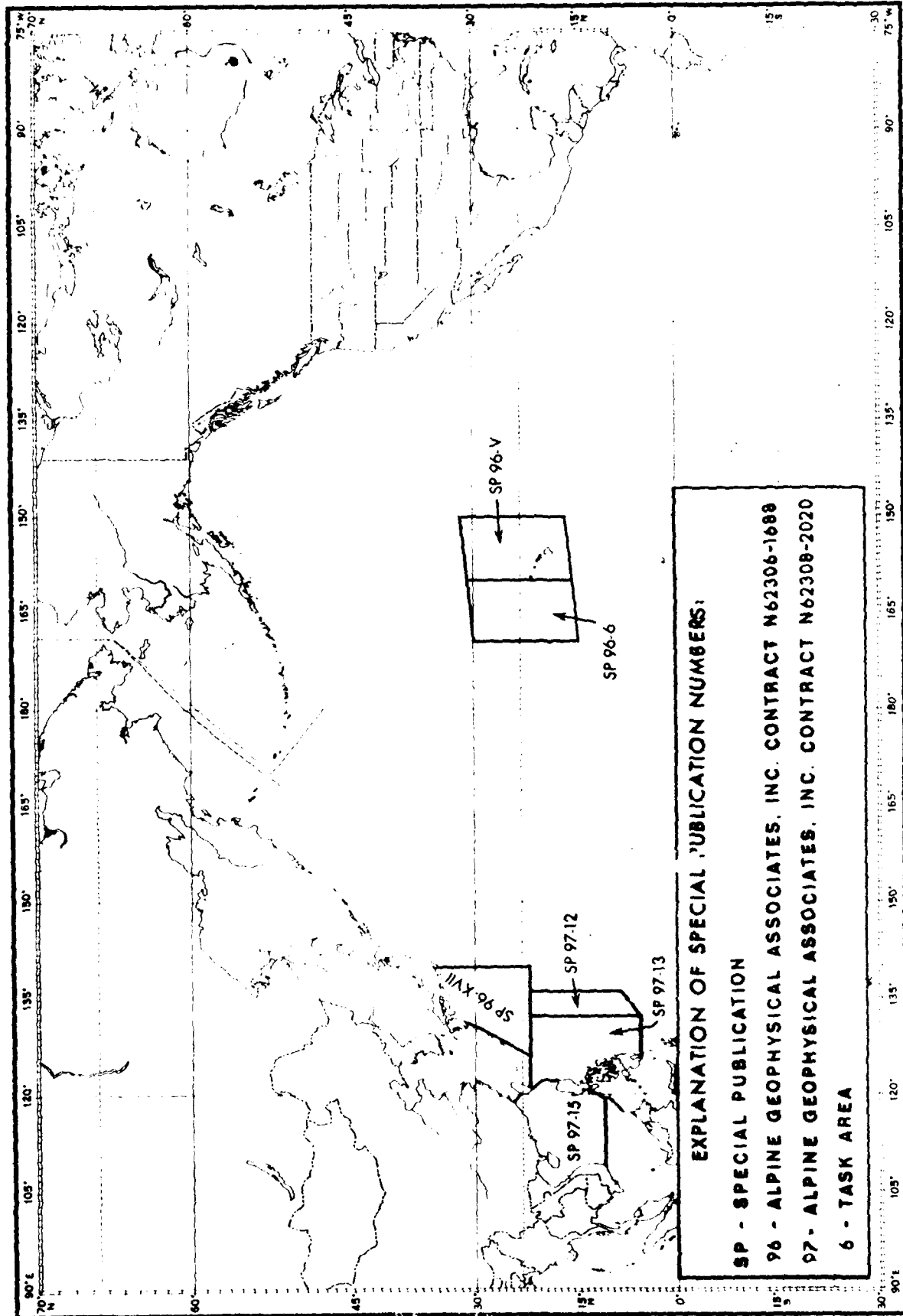


FIGURE 2 DESIGNATED SPECIAL PUBLICATION NUMBERS FOR TASK AREAS IN THE NORTH PACIFIC

# MARINE GEOPHYSICAL SURVEY PROGRAM

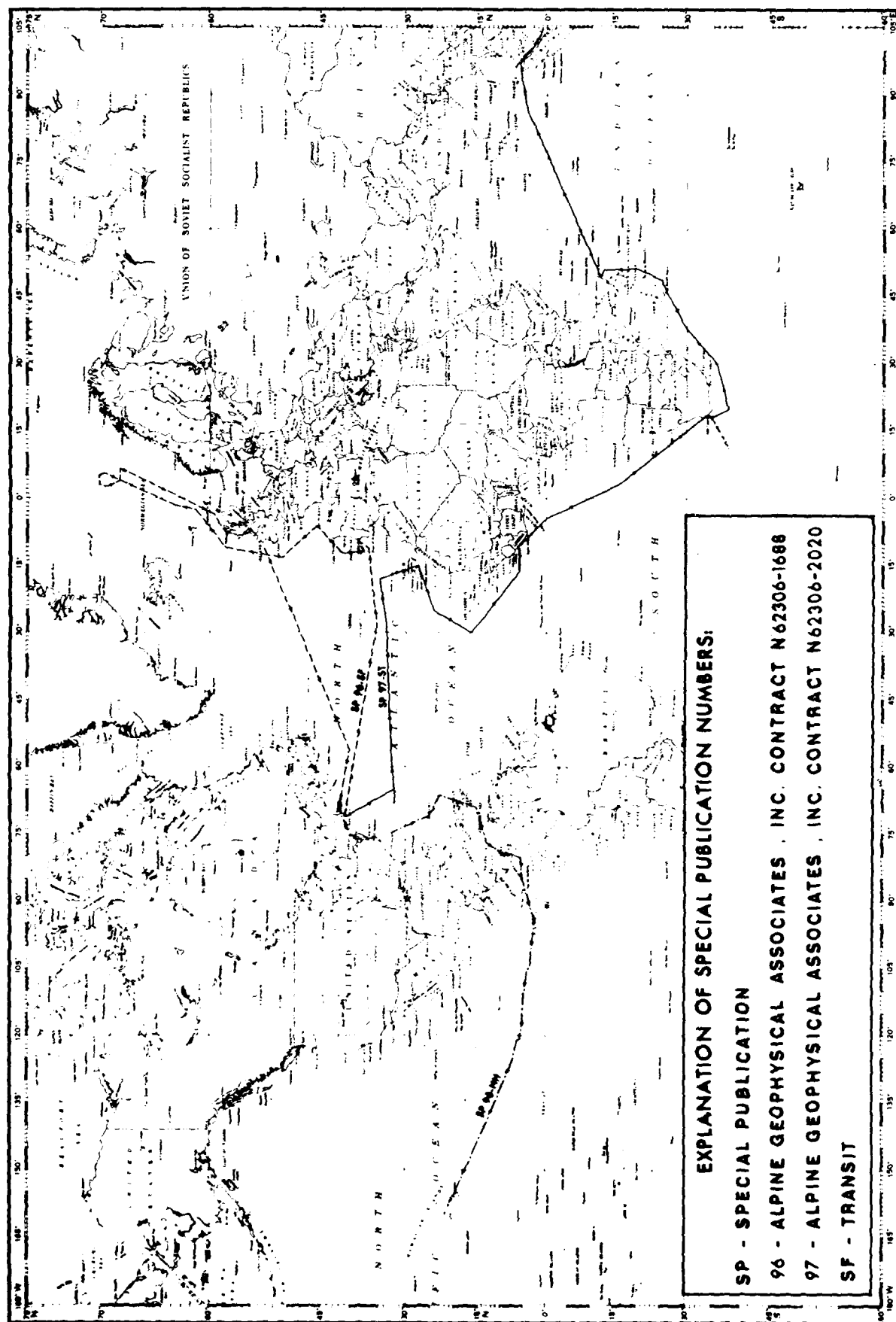


FIGURE 3 DESIGNATED SPECIAL PUBLICATION NUMBERS FOR TRANSITS

SP 95-5-7	+ -Area 5, Volume 7. DATA CATALOG. 1967, 120 p., \$3.00. AD 817 828
SP 95-5-8	+ -Area 5, Volume 8. FIELD OPERATIONS. 1967, 50 p., \$3.00. AD 650 862
SP 95-5-8S	+ -Area 5, Volume 8S. FIELD OPERATIONS, Supplement. 1967, 36 p., \$3.00. AD 817 829L
SP 95-5-9	+ -Area 5, Volume 9. DATA PROCESSING TECHNIQUES. 1968, 113 p., \$3.00. AD 393 119
SP 95-6-1	+ -Area 6, Volume 1. ACOUSTIC RESULTS AND SUMMARY REPORT. 154 p., \$3.00. AD 394 862
SP 95-6-5	+ -Area 6, Volume 5. GEOLOGY AND GEOPHYSICS. 1967, 42 p., \$3.00. AD 824 564L
SP 95-6-6	+ -Area 6, Volume. OCEANOGRAPHIC STATIONS AND VELOCITY PROFILES. 1967, 246 p., \$3.00. AD 664 677
SP 95-6-7	+ -Area 6, Volume 7. DATA CATALOG. 1967, 86 p., \$3.00. AD 821 292L
SP 95-6-8	+ -Area 6, Volume 8. FIELD OPERATIONS. 1967, 75 p., \$3.00. AD 821 293L
SP 95-7/4-5	+ -Area 7/4, Volume 5. GEOLOGY AND GEOPHYSICS. 1969, 99 p., \$3.00. AD 857 629
SP 95-7/4-6	+ -Area 7/4, Volume 6. OCEANOGRAPHIC STATIONS AND VELOCITY PROFILES. 1969, 336 p., \$3.00. AD 851 975
SP 95-7/4-7	+ -Area 7/4, Volume 7. DATA CATALOG. 1969, 122 p., \$3.00. AD 850 224
SP 95-7/4-8	+ -Area 7/4, Volume 8. FIELD OPERATIONS. 1969, 85 p., \$3.00. AD 850 263

SP 96-HH-2 +MARINE GEOPHYSICAL SURVEY PROGRAM 1965-  
1967, WESTERN NORTH ATLANTIC AND EASTERN  
AND CENTRAL NORTH PACIFIC OCEANS, Area  
HH, Volume 2. SUMMARY REPORT OF GEOPHYSICAL  
INFORMATION-Part 1. BATHYMETRY AND  
SUBBOTTOM PROFILING-Part 2. MAGNETICS.  
1967, 101 p., \$3.00.  
AD 664 680

SP 96-HH-3 + -Area HH, Volume 3. CATALOG OF DATA.  
1967, 33 p., \$3.00.  
AD 821 287L

SP 96-HH-4 + -Area HH, Volume 4. CORES AND BOTTOM  
PHOTOGRAPHIC STATIONS. 1968, 53 p.,  
\$3.00.  
AD 846 176

SP 96-SF-5 + -Area SF, Volume 5. BATHYMETRY AND SUBBOTTOM  
PROFILING. 1967, 65 p., \$3.00.  
AD 816 005L

SP 96-SF-6 + -Area SF, Volume 6. MAGNETICS. 1967, 17 p.,  
\$3.00.  
AD 816 008L

SP 96-SF-8 + -Area SF, Volume 8. CORE, SOUND VELOCIMETER,  
HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC  
STATIONS-CORES. 1967, 54 p., \$3.00.  
AD 821 291L

SP 96-SF-8A + -Area SF, Volume 8A. CORE, SOUND VELOCIMETER,  
HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC  
STATIONS-SOUND VELOCITY PROFILES. 1966,  
54 p., \$3.00.  
AD 815 278L

SP 96-SF-9 + -Area SF, Volume 9. CATALOG OF DATA. 1967,  
40 p., \$3.00.  
AD 815 279L

SP 96-I-5 + -Area I, Volume 5. BATHYMETRY AND SUBBOTTOM  
PROFILING. 1966, 35 p., \$3.00.  
AD 815 276L

SP 96-I-6 + -Area I, Volume 6. MAGNETICS. 1966, 25 p.,  
\$3.00.  
AD 815 277L

SP 96-I-8 + -Area I, Volume 8. CORE, SOUND VELOCIMETER,  
HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC  
STATIONS-CORES. 1966, 48 p., \$3.00.  
AD 816 084L

SP 96-I-8A + -Area, I, Volume 8A. CORE, SOUND VELOCIMETER,  
HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC  
STATIONS, INCLUDING AREA 2. 1966, 29 p.,  
\$3.00.  
AD 816 085L

SP 96-I-8B + -Area I, Volume 8B. CORE, SOUND VELOCIMETER,  
HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC  
STATIONS-CORES. 1967, 49 p., \$3.00.  
AD 821 289L.

SP 96-I-8C + -Area I, Volume 8C. CORE, SOUND VELOCIMETER,  
HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC  
STATIONS-SOUND VELOCITY PROFILES. 1967,  
215 p., \$3.00.  
AD 821 303L

SP 96-I-9 + -Area I, Volume 9. CATALOG OF DATA. 1966,  
41 p., \$3.00.  
AD 816 089L

SP 96-I-9A + -Area I, Volume 9A. CATALOG OF DATA. 1967,  
35 p., \$3.00.  
AD 815 281L

SP 96-I-10 + -Area I, Volume 10. SHIPS OPERATIONS AND  
MEASUREMENTS AT SEA. 1966, 84 p., \$3.00.  
AD 815 280L

SP 96-I-11 + -Area, I, Volume 11. DATA ANALYSIS PROCEDURES.  
1966, 23 p., \$3.00.  
AD 815 282 L

SP 96-II-5 + -Area II, Volume 5. BATHYMETRY AND SUBBOTTOM  
PROFILING. 1966, 56 p., \$3.00.  
AD 816 004

SP 96-II-6 + -Area II, Volume 6. MAGNETICS. 1966, 11 p.,  
\$3.00.  
AD 816 087L

SP 96-II-8 + -Area II, Volume 8. CORE, SOUND VELOCIMETER,  
HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC  
STATIONS-CORES. 1967, 59 p., \$3.00.  
AD 816 086L

SP 96-II-8A	+ -Area II, Volume 8A CORE, SOUND VELOCIMETER, HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC STATIONS-SOUND VELOCITY PROFILES. 1967, 217 p., \$3.00. AD 821 302
SP 96-II-9	+ -Area II, Volume 9. CATALOG OF DATA. 1966, 56 p., \$3.00. AD 817 837
SP 96-V-5	+ -Area V, Volume 5. BATHYMETRY AND SUBBOTTOM PROFILING. 1967, 84 p., \$3.00. AD 825 320
SP 96-V-6	+ -Area V, Volume 6. MAGNETICS. 1967, 21 p., \$3.00. AD 820 091
SP 96-V-8	+ -Area V, Volume 8. CORE, SOUND VELOCIMETER, HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC STATIONS-CORES. 1968, 94 p., \$3.00. AD 833 858
SP 96-V-8A	+ -Area V, Volume 8A. CORE, SOUND VELOCIMETER, HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC STATIONS-SOUND VELOCITY PROFILES. 1968, 94 p., \$3.00. AD 852 007
SP 96-V-8B	+ -Area V, Volume 8B. CORE, SOUND VELOCIMETER, HYDROGRAPHIC AND PHOTOGRAPHIC STATIONS-HYDROGRAPHIC STATIONS. 1968, 26 p., \$3.00. AD 833 859
SP 96-V-9	+ -Area V, Volume 9. CATALOG OF DATA. 1967, 62 p., \$3.00. AD 825 321
SP 96-6-5	+ -Area 6, Volume 5. BATHYMETRY AND SUBBOTTOM PROFILING. 1968, 42 p., \$3.00. AD 855 347
SP 96-6-6	+ -Area 6, Volume 6. MAGNETICS. 1968, 34 p., \$3.00. AD 846 082
SP 96-6-8	+ -Area 6, Volume 8. CORE, SOUND VELOCIMETER, HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC STATIONS-CORES. 1968, 82 p., \$3.00. AD 851 974

SP 96-6-8A	+ -Area 6, Volume 8A. SOUND VELOCITY PROFILES. 1968, 151 p., \$3.00. AD 852 007
SP 96-6-8B	+ -Area 6, Volume 8B. HYDROGRAPHIC STATIONS. 1968, 47 p., \$3.00. AD 851 493
SP 96-6-9	+ -Area 6, Volume 9. CATALOG OF DATA. 1968, 80 p., \$3.00. AD 845 486
SP 96-6-10	+ -Area 6, Volume 10. SHIPS OPERATIONS, MEASUREMENTS AT SEA AND DATA ANALYSIS PROCEDURES. 1969, 110 p., \$3.00. AD 856 076
SP 96-XVII-3	+ -Area XVII, Volume 3. BATHYMETRY AND SUBBOTTOM PROFILING. 1968, 95 p., \$3.00. AD 843 875
SP 96-XVII-4	+ -Area XVII, Volume 4. MAGNETICS. 1968, 25 p., \$3.00. AD 833 860
SP 96-XVII-6	+ -Area XVII, Volume 6. CORE, SOUND VELOCIMETER, HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC STATIONS-CORES. 1968, 71 p., \$3.00. AD 847 506
SP 96-XVII-6A	+ -Area XVII, Volume 6A. CORE, SOUND VELOCIMETER, HYDROGRAPHIC AND BOTTOM PHOTOGRAPHIC STATIONS-SOUND VELOCITY PROFILES. 1968, 81 p., \$3.00. AD 831 610
SP 96-XVII-7	+ -Area XVII, Volume 7. CATALOG OF DATA. 1967, 35 p., \$3.00. AD 668 705
SP 97-ST-2	+MARINE GEOPHYSICAL PROGRAM 1965-1967 WESTERN NORTH PACIFIC OCEAN AND SOUTH CHINA SEA, Area ST, Volume 2, SUMMARY REPORT OF GEOPHYSICAL INFORMATION. 1968, 246 p., \$3.00. AD 859 525
SP 97-ST-3	+ -Area ST, Volume 3. CATALOG OF DATA. 1969, 62 p., \$3.00. AD 860 135

SP 97-12-4	+ -Area 12, Volume 4. SOUND VELOCIMETER RESULTS AND SHOT RUN BATHYMETRY. 1969, 115 p., \$3.00. AD 854 751
SP 97-12-5	+ -Area 12, Volume 5. CORE ANALYSIS AND BOTTOM PHOTOGRAPHS. 1969, 64 p., \$3.00. AD 861 488
SP 97-12-6	+ -Area 12, Volume 6. CATALOG OF DATA. 1969, 39 p., \$3.00. AD 852 008
SP 97-12-7	+ -Area 12, Volume 7. SHIP OPERATIONS, MEASUREMENTS AT SEA, AND DATA ANALYSIS PROCEDURES. 1969, 155 p., \$3.00. AD 856 751
SP 97-13-4	+ -Area 13, Volume 4. SOUND VELOCIMETER RESULTS AND SHOT RUN BATHYMETRY. 1969, 200 p., \$3.00. AD 854 752
SP 97-13-5	+ -Area 13, Volume 5. CORE ANALYSIS AND BOTTOM PHOTOGRAPHS. 1969, 124 p., \$3.00. AD 861 839
SP 97-13-6	+ -Area 13, Volume 6. CATALOG OF DATA. 1969, 66 p., \$3.00. AD 852 019
SP 97-13-7	+ -Area 13, Volume 7. SHIP OPERATIONS, MEASUREMENTS AT SEA, AND DATA ANALYSIS PROCEDURES. 1969, 156 p., \$3.00. AD 856 830
SP 97-15-4	+ -Area 15, Volume 4. SOUND VELOCIMETER RESULTS AND SHOT RUN BATHYMETRY. 1969, 185 p., \$3.00. AD 861 840
SP 97-15-5	+ -Area 15, Volume 5. CORE ANALYSIS AND BOTTOM PHOTOGRAPHS. 1969, 110 p., \$3.00. AD 850 898
SP 97-15-6	+ -Area 15, Volume 6. CATALOG OF DATA. 1968, 56 p., \$3.00.
SP 97-15-7	+ -Area 15, Volume 7. SHIP OPERATIONS, MEASUREMENTS AT SEA AND DATA ANALYSIS PROCEDURES. 1969, 155 p., \$3.00. AD 856 729

- SP 99                      See RP 18
- SP 105                    \*OCEAN THERMAL STRUCTURE FORECASTING, by  
R.W. James. 1966, 217 p., \$1.50.  
AD 631 720
- Outlines procedures for manually  
predicting ocean thermal structure  
with emphasis on small-area forecasting  
over a limited time period.
- SP 109                    \*NUMERICAL TECHNIQUES, by B.J. Thompson.  
1965, 27 p., \$.25.
- Outlines procedures for collecting,  
editing, analyzing, and transforming  
ASWEPS thermal structure prediction data  
to yield operational sonar range charts.
- SP 111                    #DATA REQUIREMENTS FOR SYNOPTIC SEA SURFACE  
TEMPERATURE ANALYSES, by R.W. James. 1967,  
29 p., \$.60.  
AD 825 597
- Provides guidelines for quantity  
and quality of synoptic data required for  
reliable sea surface temperature charts.
- SP 123                    See RP-2
- #SCIENCE AND THE SEA. 1967, 80 p., \$.75.
- SP 132                    \*SCIENCE AND THE SEA. Vol. II, 1970, 84 p.,  
\$1.00.
- Each volume contains 10 pilot chart  
articles covering a wide range of oceanographic,  
hydrographic, and navigational subjects.
- SP 133-18-1              +OCEANOGRAPHIC SURVEY REPORT, SEA OF JAPAN.  
1974, 167 p., \$2.50.  
AD 786 136
- This report presents geological,  
geophysical, and physical oceanographic  
data of the Sea of Japan survey conducted  
October 1967 to June 1968.

SP 138

+\*SPHEROIDAL GEODESICS, REFERENCE SYSTEMS,  
AND LOCAL GEOMETRY, by P.D. Thomas. 1970,  
165 p., \$1.75.  
AD 703 541

A highly technical treatise on the oblate spheroid (reference ellipsoid) with formulas of geodetic accuracy for noniterative direct and inverse solutions using natural trigonometric functions adaptable to high-speed computer.

SP 142

+MARINE GEOPHYSICAL SURVEY (1965-1968)  
STATION-DATA LISTING AND REPORT CATALOG, by  
S. Chanesman and O. Kaufman. 1974, 93 p.,  
\$1.50.  
AD 777 401

A catalog of collected Marine Geophysical Survey (MGS) data and published MGS reports. It lists the types of measurements (acoustic, oceanographic, and geophysical) made at 1,182 stations in the North Atlantic and North Pacific Oceans during the MGS Program 1965-1968. Published MGS task area reports are also briefly described.

SP 152

+MICROWAVE OBSERVATIONS OF THE OCEAN SURFACE;  
ANALYSES OF THE NASA/NAVY REVIEW, 11-12  
JUNE 1969. 1970, 292 p., \$2.85.  
AD 718 773

Contains results of recent passive and active remote-sensing microwave experiments.

SP 189-I

+ENVIRONMENTAL-ACOUSTIC ATLAS OF THE CARIBBEAN  
SEA AND GULF OF MEXICO, Vol. I, MARINE  
ACOUSTICS. 1972, 300 p.  
AD 523 097L

SP 189-II

-Vol. II, MARINE ENVIRONMENT. 1972, 190 p., \$2.00.  
AD 752 494

These volumes summarize available acoustic and environmental data in the Caribbean Sea and Gulf of Mexico and their Atlantic Approaches between 10°N and 30°N and west of approximately 56°W.

SP 211

ENVIRONMENTAL GUIDE TO THE VIRGINIA CAPES  
OPERATING AREA, by A. Fisher. 1973, 58 p.,  
\$1.50.

Provides an overall perspective of oceanography in the Virginia Capes operating area.

SP 250 MARINE ENVIRONMENTAL PLANNING GUIDE FOR THE HAMPTON ROADS/NORFOLK NAVAL OPERATING AREA, edited by R.G. Beauchamp. 1974, 262 p., \$3.25.

The marine environment of the Atlantic Ocean up to 180 miles east of the coast of Virginia and North Carolina is summarized and evaluated to estimate the effects of introduced pollutants.

SP 259 +NEARSHORE CURRENTS AND CORAL REEF ECOLOGY OF THE WEST COAST OF GUAM, MARIANA ISLANDS, by H.D. Huddell, J.C. Willett, and G. Marchand. 1974, 185 p., \$5.00.  
AD 780 435

Two field investigations of the currents and coral reef ecology of Guam during the winter and summer 1971

SP 260 +ANALYSIS OF DEFLECTION-CF-THE-VERTICAL INNER-ZONE METHODS, by A.L. Kontis, R.R. Michlik, and T.M. Davis. 1974, 75 p., \$2.00.  
AD 776 225

Charts showing the collection of massive amounts of gravity data at sea, processed to produce mean anomalies and computation of the vertical deflection by the method of Vening Meinesz.

SP 261 +PRELIMINARY RESULTS OF LITTLE WINDOW 2; A SATELLITE OCEAN STATION EXPERIMENT IN THE GULF OF CALIFORNIA, by P.E. LaViolette, 1974, 90 p., \$2.00.  
AD A002 457

A compilation of papers presented 14 April 1972 during the Little Window 2 Workshop.

SP 262 A STUDY OF NEARSHORE MARINE AND BEACH ECOLOGY, PACIFIC MISSILE RANGE FACILITY, KAUAI, HAWAII, by H.D. Huddell and J.C. Willett. 1977, 40 p., \$1.00.  
AD A043 183

Discusses environmental impact of cable laying operations at Barking Sands, July 1974.

SP 263 +ALASKAN AREA 15- and 30-DAY ICE FORECASTING GUIDE, by G.J. Potocsky, 1975, 198 p., \$2.25.

Details procedures for forecasting ice edge movement, ice growth, and ice disintegration using current ice and environmental data.

SP 265 WESTERN ROSS SEA AND MCMURDO SOUND ICE FORECASTING GUIDE, by R.J. Perchal. 1975, 145 p., \$3.00.  
AD A010 527

Contains procedures for preparing short-range (48-hour) and long-range (15- to 30-day) predictions of sea ice conditions.

SP 266 #EASTERN ARCTIC AREA 15- and 30-DAY ICE FORECASTING GUIDE, by P.A. Mitchell. 1979, 259 p., \$3.00.  
AD A072 930

Predicts growth, movement, and decay of sea ice based on storm tracks, sea level temperature, surface temperature, and surface currents.

SP 1400-NA-1 SURFACE CURRENTS-GREENLAND including DENMARK STRAIT. 1978, \$3.00.

SP 1400-NA-2 SURFACE CURRENTS-NORWEGIAN AND BARENTS SEA. 1978, \$3.00.

SP 1400-NA-4 SURFACE CURRENTS-NORTHWEST ATLANTIC OCEAN AND LABRADOR SEA. 1978, \$3.00.

SP 1400-NA-5 SURFACE CURRENTS-NORTHEAST ATLANTIC. 1978, \$3.00.

SP 1400-NA-6 SURFACE CURRENTS-WEST CENTRAL NORTH ATLANTIC. 1978, \$3.00.

SP 1400-NA-7 SURFACE CURRENTS-EAST CENTRAL NORTH ATLANTIC. 1978, \$3.00.

SP 1401-SA-4 SURFACE CURRENTS-SOUTH ATLANTIC. 1977, \$3.00.

SP 1402-NP-4 SURFACE CURRENTS-SEA OF OKHOTSK including the KURIL ISLANDS. 1977, \$3.00.

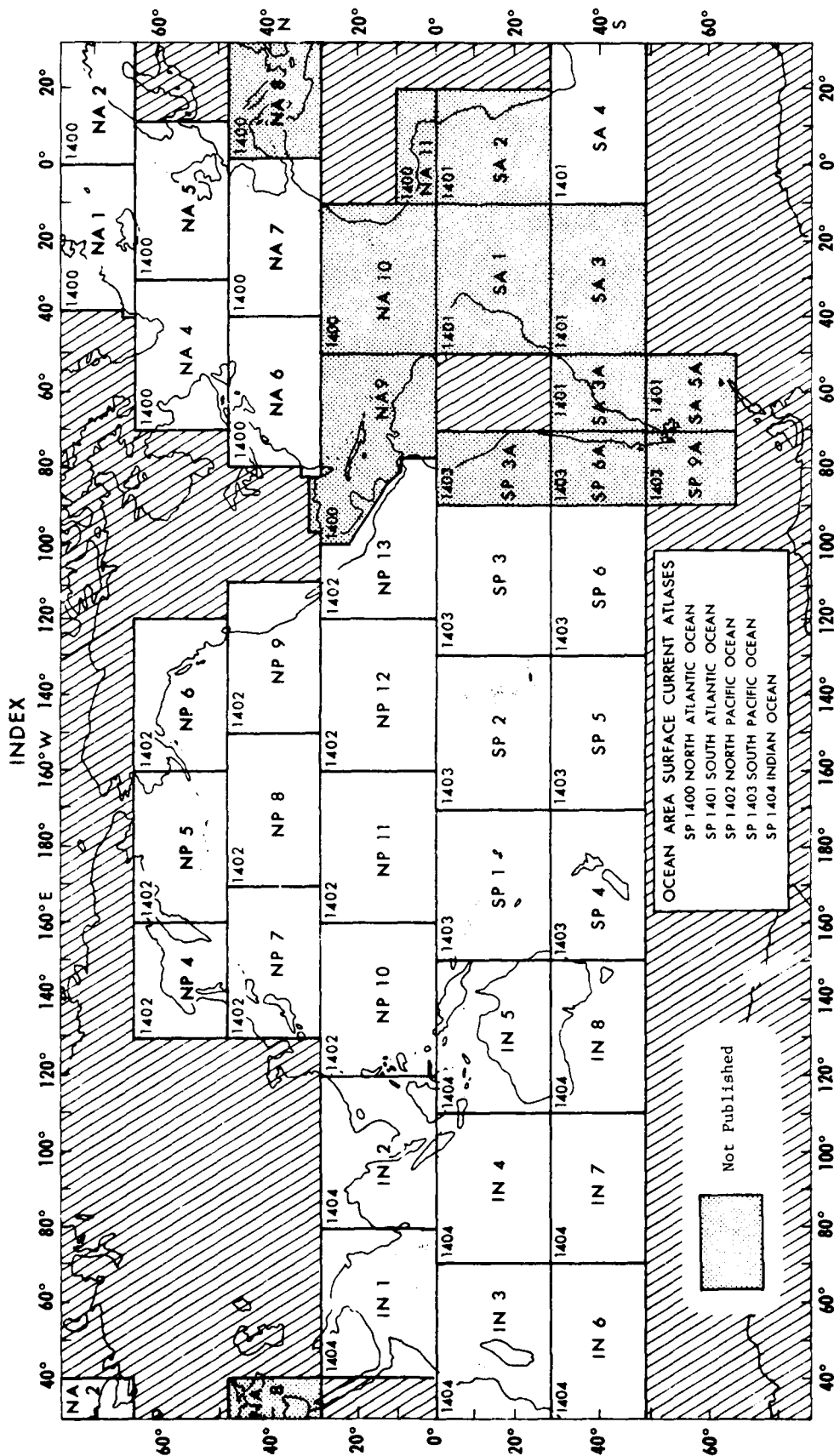


FIGURE 4 SURFACE CURRENT ATLASES

SP 1402-NP-5	SURFACE CURRENTS-BERING SEA including the ALEUTIAN ISLANDS. 1977, \$3.00.
SP 1402-NP-6	SURFACE CURRENTS-GULF OF ALASKA. 1977, \$3.00.
SP 1402-NP-7	SURFACE CURRENTS-NORTHWEST PACIFIC AND SEA OF JAPAN. 1977, \$3.00.
SP 1402-NP-8	SURFACE CURRENTS-NORTH CENTRAL NORTH PACIFIC. 1977, \$3.00.
SP 1402-NP-9	SURFACE CURRENTS-NORTHEAST NORTH PACIFIC including the WEST COAST of the U.S.. 1977, \$3.00.
SP 1402-NP-10	SURFACE CURRENTS-SOUTHWEST NORTH PACIFIC including the PHILIPPINE ISLANDS. 1977, \$3.00.
SP 1402-NP-11	SURFACE CURRENTS-SOUTHWEST NORTH PACIFIC. 1977, \$3.00.
SP 1402-NP-12	SURFACE CURRENTS-SOUTHEAST CENTRAL NORTH PACIFIC including the HAWAIIAN ISLANDS. 1977, \$3.00.
SP 1402-NP-13	SURFACE CURRENTS-SOUTHEAST NORTH PACIFIC including the WEST COAST OF CENTRAL AMERICA. 1977, \$3.00.
SP 1403-SP-1	SURFACE CURRENTS-NORTHWEST SOUTH PACIFIC. 1977, \$3.00.
SP 1403-SP-2	SURFACE CURRENTS-NORTHWEST CENTRAL SOUTH PACIFIC. 1977, \$3.00.
SP 1403-SP-3	SURFACE CURRENTS-NORTHEAST CENTRAL SOUTH PACIFIC. 1977, \$3.00.
SP 1403-SP-4	SURFACE CURRENTS-SOUTHWEST SOUTH PACIFIC. 1978, \$3.00.
SP 1403-SP-5	SURFACE CURRENTS-SOUTHWEST CENTRAL SOUTH PACIFIC. 1977, \$3.00.
SP 1403-SP-6	SURFACE CURRENTS-SOUTHEAST CENTRAL SOUTH PACIFIC. 1977, \$3.00.
SP 1404-IN-1	SURFACE CURRENTS-NORTHWEST INDIAN OCEAN including the ARABIAN AND LACCADIVE SEAS. 1977, \$3.00.
SP 1404-IN-2	SURFACE CURRENTS-NORTHEAST INDIAN OCEAN including the BAY OF BENGAL, ANDAMAN SEA, AND SOUTH CHINA SEA. 1977, \$3.00.

SP 1404-IN-3 SURFACE CURRENTS-WEST CENTRAL INDIAN  
OCEAN including MOZAMBIQUE CHANNEL.  
1977, \$3.00.

SP 1404-IN-4 SURFACE CURRENTS-CENTRAL INDIAN OCEAN.  
1977, \$3.00.

SP 1404-IN-5 SURFACE CURRENTS-EAST CENTRAL INDIAN  
OCEAN including the EAST INDIAN  
ARCHIPELAGO (INDONESIA). 1977, \$3.00.

SP 1404-IN-6 SURFACE CURRENTS-SOUTHWEST INDIAN  
OCEAN. 1977, \$3.00.

SP 1404-IN-7 SURFACE CURRENTS-SOUTH CENTRAL INDIAN  
OCEAN. 1977, \$3.00.

SP 1404-IN-8 SURFACE CURRENTS-SOUTHEAST INDIAN  
OCEAN including the WEST AUSTRALIAN  
BIGHT. 1977, \$3.00.

LISTINGS OF  
PUBLICATIONS

-- III --

NAVAL OCEANOGRAPHIC OFFICE

TECHNICAL REPORTS

(TR)

PRECEDING PAGE BLANK-NOT FILMED

TR 8 HARBOR FREEZEUP REPORT 1957. 1959, 82 p., \$1.10.

Describes formation and growth of sea ice at Point Barrow, Alaska; Thule and Sondre Stromfjord, Greenland; Cape Hooper, Northwest Territory; and Goose Bay, Labrador, in autumn 1957. Includes meteorological data.

TR 22 +LOCAL ENVIRONMENTAL FACTORS AFFECTING ICE FORMATION IN SONDRÉ STROMFJORD, GREENLAND, by J.R.D. Tapager. 1955, 26 p., \$.30. AD 100 162

A study of oceanographic and meteorological conditions of the fjord to determine their relationship to ice. Describes ice formation during autumn 1953 as well as the history of normal ice formation.

TR 23 +LOCAL ENVIRONMENTAL FACTORS AFFECTING ICE FORMATION IN NORTH STAR BUGT, GREENLAND, by R.J. McGough. 1956, 40 p., \$.40. AD 107 732

A study of environmental factors influencing formation and growth of sea ice in 1953 at Thule, Greenland.

TR 24 +LOCAL ENVIRONMENTAL FACTORS AFFECTING ICE FORMATION IN TERRINGTON BASIN, LABRADOR, by O.S. Lee. 1955, 29 p., \$.35. AD 099 261

Compares formation, growth, and disintegration of sea ice during autumn 1953 with historical data.

TR 30 +CLIMATOLOGY OF THE ICE POTENTIAL AS APPLIED TO THE BEAUFORT SEA AND ADJACENT WATERS, by E.L. Corton, 1955, 16 p. AD 086 506

Describes techniques for ice potential climatology using heat loss, depth of connection, and stability of the water column.

TR 31

#ROCHEDOS SAO PEDRO E SAO PAULO, by W.L. Tressler, S. Bershad, and W.H. Berninghausen. 1956, 63 p., \$.50.  
AD 100 722

Describes the 1955 visit of the USS ATKA as well as all previous recorded visits. Changes in the form of the rocks, geology, lithology, fauna, flora, seismicity, and volcanism of the area are discussed.

TR 40

#CHARACTERISTICS OF POLAR ICE OBSERVED DURING THE 1957 ARCTIC CRUISE OF USS NAUTILUS (SSN-571) 1958.  
AD A032 759

Discusses sea-ice features of Polar Pack transited during 1957 arctic cruise of the NAUTILUS. Latitudinal and regional sea-ice features are compared. Recommends future use of submarines for data collection.

TR 46

+OCEANOGRAPHIC SURVEY RESULTS-BERING SEA AREA-WINTER AND SPRING 1955. 1958, 95 p.  
AD 203 415

USCGC NORTHWIND and USS BURTON ISLAND collected 79 oceanographic stations, 55 bottom samples, ice, weather, transparency, and surface currents.

TR 47

#A STUDY OF THE TYPES, SEASONS OF ATTACHMENT, AND GROWTH OF FOULING ORGANISMS IN THE APPROACHES TO NORFOLK, VIRGINIA, by W.E. Maloney. 1958, 35 p., \$.60.  
AD 208 073

An analysis of marine biological fouling data obtained in 1956-57 along the bottom near Thimble Shoal in lower Chesapeake Bay.

TR 53

+EVALUATION OF THE U.S. HYDROGRAPHIC OFFICE SHIP ROUTING PROGRAM, by R.W. James and G.L. Hanssen. 1958, 31 p., \$.60.  
AD 207 893

Evaluates 32 oceanographic route forecasts provided for MSTs vessels. Tables and charts summarize results.

- TR 54                   +METEOROLOGICAL AND OCEANOGRAPHIC FACTORS  
RELATING TO ANTARCTIC AIR-SEA RESCUE  
OPERATIONS AND HUMAN SURVIVAL. 1957, 67 p.,  
(formerly H.O. Misc. 16,659) \$.75.  
AD 143 856
- Presents meteorological and oceanographic  
background information between New Zealand  
and McMurdo Sound, Antarctica.
- TR 55                   +DESCRIPTIVE OCEANOGRAPHY OF KUWAIT HARBOR,  
by H.W. Dubach and T.J. Wehe. 1959, Reprinted  
1967, 43 p., \$.90.  
AD 225 632
- Oceanographic analysis of Kuwait  
Harbor and adjacent waters based on observations  
taken between November 1948 and May 1949.  
Included are temperature, salinity,  
surface and subsurface currents, waves,  
bottom sediment data and other incidental  
observations.
- TR 60                   +FROST DEGREE DAY, RELATED ICE THICKNESS  
CURVES, AND HARBOR FREEZEUP AND BREAKUP  
DATES FOR SELECTED ARCTIC STATIONS, by  
F.E. Kniskern and G.J. Potocsky. 1965, 123 p.,  
\$1.50.  
AD 473 345
- Historical frost degree data and sea  
ice information for 58 selected arctic  
stations, including earliest, latest, and  
average freezeup and breakup dates.
- TR 61                   A REAPPRAISAL OF THE TIDES OF THE MEDITERRANEAN,  
by W.E. Maloney and R.E. Burns. 1958, 32 p.,  
\$.35.
- Proposes that Mediterranean tides  
result from tide-producing forces  
rather than a co-oscillation due to tidal  
progression from the Atlantic.
- TR 62                   +A METHOD FOR ESTIMATING THE FLUSHING TIME  
OF ESTUARIES AND EMBAYMENTS, by B.W.  
Gibson. 1959, 19 p., \$.30.  
AD 225 633
- A relationship is derived from the  
circulation pattern of a piedmont-type  
estuary to express the time required for  
change of estuarine volume by tidal  
action and river flow.

- TR 70                   +SEA SURFACE TEMPERATURE SYNOPTIC ANALYSIS,  
by B.W. Gibson. 1962, 17 p., (ASWEPS  
Report No. 7) \$.55.  
AD 417 687
- Describes techniques for preparing  
detailed sea surface temperature analysis  
for large ocean areas utilizing injection  
temperatures.
- TR 80                   +STUDY OF OCEANOGRAPHIC CONDITIONS AS  
RELATED TO PROJECT POLYNYA, by C.W. Senior.  
1961, 75 p., \$.95.  
AD 402 916
- Presents an ice-growth retardation  
model based on an air-bubbling system  
installed by MSTSLANT at Thule, Greenland,  
during autumn 1959. Contains oceanographic  
and meteorological data obtained during  
autumn 1959 and 1960.
- TR 91                   SUBMARINE OCEANOGRAPHIC INSTRUMENT  
INSTALLATION ABOARD USS REDFIN (SS-272)  
(with appendixes A, B, and C). 1960.  
AD 317 336
- Describes development and installation  
of oceanographic and ship-motion instruments.
- TR 96                   MARINE BIOLOGICAL FOULING IN THE APPROACHES  
TO CHESAPEAKE BAY, by F.M. Daugherty.  
1961, 40 p., \$.45.  
AD 281 104
- Results and analysis of 3-1/2 years  
of marine biological fouling data  
obtained along the bottom of the approaches  
to Chesapeake Bay from April 1956 to  
November 1959.
- TR 104                  +PREDICTION OF THE THERMOCLINE DEPTH, by  
P.A. Mazeika. 1960, 81 p., (ASWEPS Report  
No. 5) \$1.05.  
AD 288 596
- Presents method for predicting  
thermocline depth based on BT data and  
weather conditions at Ocean Station  
CHARLIE (52°N, 35°W), particularly  
stability in the thermocline and extent  
of convergence or divergence in wind-  
driven currents.
- TR 107                  +THE OCCURRENCE AND VELOCITY DISTRIBUTION  
OF SHORT-TERM INTERNAL TEMPERATURE VARIATIONS  
NEAR TEXAS TOWER NO. 4, by R.D. Gaul.  
1961, 45 p., (ASWEPS Report No. 1) \$.50.  
AD 266 307

- TR 108                   +SUBMARINE GEOLOGY OF THE TONGUE OF THE OCEAN,  
BAHAMAS, by R.F. Busby. 1962, 84 p., \$.75.  
AD 404 878
- Analyses of sediment cores, 6 grab samples,  
and 4 stereographic camera tracks.
- TR 115                   #DEFLECTION OF THE VERTICAL COMPUTATION BY  
ELECTRONIC COMPUTER: USING AREAS BOUNDED  
BY GEOGRAPHIC COORDINATES, by A.C. Campbell.  
1962, 15 p., \$.30.  
AD 400 123
- Outlines an automated process for  
computing gravity deflection components.
- TR 117                   +HARBOR ANALOG SYSTEM, PART I. WAVES, by  
A.L. Grabham. 1961, Reprinted 1964, 33 p.,  
\$.40.  
AD 281 585
- Classifies world harbors and nearshore  
( $< 30$  fm) areas into analogous groups with  
respect to frequency distribution of wave  
heights and periods. (Antecedent to TR 154.)
- TR 127                   OCEANOGRAPHIC INVESTIGATIONS AMDE DURING  
THE SUBMERGED WORLD CIRCUMNAVIGATION,  
USS TRITON (SSRN-586). 1962.  
AD 329 448
- Describes instrumentation and techniques  
used aboard USS TRITON for oceanographic measure-  
ments during circumnavigation 16 February  
to 11 May 1960. Data obtained are included.
- TR 131                   +OCEAN CURRENTS OVER PLANTAGENET BANK,  
BERMUDA, by R.A. Pedrick. 1962, 73 p.,  
(ASWEPS Report No. 6) \$.95.  
AD 416 748
- Contains results of an ocean current  
study over Plantagenet Bank, Bermuda, from  
1 to 15 August 1961.
- TR 132                   +DIURNAL TEMPERATURE CHANGES AT OCEAN STATION  
ECHO, SEPTEMBER 1959, by E.L. Corton. 1962,  
21 p., (ASWEPS Report No. 9) \$.30.  
AD 814 063
- Describes diurnal temperature changes  
deduced from a series of 900 half-hourly  
BT's obtained at Ocean Station ECHO  
(35°N, 48°W) in September 1959.

TR 133

+A MARINE MAGNETIC SURVEY OFF THE EAST COAST OF THE UNITED STATES, PROJECT N-20. 1962, 29 p., \$.40.  
AD 402 248

Describes geomagnetic character of an area off east coast of the United States between 35°N and 40°N and 70°W and 76°W, and its relation to bathymetric and seismic data.

TR 134

+SOURCE OF GRAVITY DATA AT THE U.S. NAVAL OCEANOGRAPHIC OFFICE, by J.E. Lectka and R.K. Lattimore. 1963, 53 p., \$.50.  
AD 431 645

Bibliography and brief abstracts of documents containing terrestrial and oceanic gravity data.

TR 144

+A STUDY OF AEROMAGNETIC COMPONENT DATA, PLANTAGENET BANK, by G.A. Young and A.L. Kontis. 1964, 18 p., \$.30.  
AD 433 023

Data from an aeromagnetic survey, under Loran-C control, are used to compute anomalous components and elements of the magnetic feature associated with Plantagenet Bank. Estimates shape, location, and magnetic character of the source body.

TR 146

+STATISTICAL ANALYSIS OF THE THERMAL STRUCTURE AT OCEAN WEATHER STATION ECHO, by J.B. Hazelworth. 1964, 63 p., (ASWEPS Report No. 8), \$.75.  
AD 450 633

Describes Sonar Experimental Research Card (SERC) deck, consisting of numerous bathythermograms and associated weather data from five Ocean Weather Stations and computer program utilizing these data.

TR 147

+PREDICTION OF THE 400-FOOT TEMPERATURE IN THE NORTH ATLANTIC, by P.A. Mazeika. 1965, 73 p., (ASWEPS Report No. 10) \$1.00.  
AD 618 680

Mean surface and 400-foot temperature anomalies are used to predict the 400-foot temperature several days in advance with an accuracy of 1.1°F.

TR 148

+WAVE CLIMATOLOGY AS AN AID TO SHIP ROUTING IN THE NORTH ATLANTIC OCEAN, by E.J. Joseph and J.M. Kipper. 1963, 20 p., \$.75.  
AD 427 244

Relates climatological data to ship speed reduction in the North Atlantic Ocean. (TR 192 (Indian and Indonesian Seas) and TR 219 (North Pacific Ocean) are sequels to this publication.)

TR 149

+A STUDY OF WAVE PERSISTENCE FOR SELECTED LOCATIONS IN THE NORTH ATLANTIC OCEAN, NORTH SEA, AND BALTIC SEA, by J.M. Kipper and E.J. Joseph. 1963, 69 p., \$.65.  
AD 436 879

Presents wave persistence graphs constructed from wave data collected by lightships and ocean station vessels.

TR 154

+HARBOR ANALOG SYSTEM. PART II. TEMPERATURE STRUCTURE, by A.L. Grabham. 1963, 67 p., \$.80.  
AD 439 095

Classified world harbors and nearshore (<30 fm) areas into analogous groups according to mean air and mean water temperature, tide ranges, and freshwater influence. (Sequel to TR 117).

TR 157

#SHARKS OF THE FAMILY LAMNIDAE, by G.B. Farquhar. 1963, 22 p., \$.30.  
AD 427 400

Summarizes available data on some biological aspects of the lamnid sharks.

TR 159

+A MARINE MAGNETIC SURVEY OF THE NEW ENGLAND SEAMOUNT CHAIN, PROJECT M-9, by J.E. Walczak. 1963, 37 p., \$.40.  
AD 437 916

Results of a systematic geomagnetic and bathymetric survey during June, July, and August 1962 by USS SHELDRAKE (AGS-19).

TR 160

+MARINE MAGNETIC SURVEY OFF THE SOUTHERN BAHAMAS, PROJECT M-15, by D.R. Bracey and O.E. Avery. 1963, 29 p., \$.40.  
AD 427 762

A geomagnetic survey off the southern Bahamas reveals three distinctive magnetic lineations which indicate the area is the focus of three major faults or fault zones.

- TR 161                   +GEOMAGNETIC AND BATHYMETRIC PROFILES  
ACROSS THE NORTH ATLANTIC OCEAN, by O.E.  
Avery. 1963, 74 p., \$1.35.  
AD 431 164
- Presents data collected during two  
North Atlantic crossings between New York  
and the Norwegian Sea during multiship  
survey operations in November 1961 and  
March 1962. A total of 17,200 miles was  
surveyed on six transoceanic tracks.
- TR 166                   +A STUDY OF AEROMAGNETIC DATA, NEW ENGLAND  
SEAMOUNT AREA, by A.L. Kontis and G.A.  
Young. 1965, 18 p., \$.70.  
AD 614 117
- Results of a detailed aeromagnetic  
survey by Project MAGNET of a 38,000-  
square mile area off the coast of New  
England in May 1957.
- TR 168                   #MARINE MAGNETIC SURVEYS IN THE NORTHWEST  
PACIFIC OCEAN, by D.R. Bracey. 1963, 11  
p., \$.25.  
AD 442 030
- A survey of two areas off the Kamchatka  
Peninsula between June and September 1962  
shows steep, high amplitude magnetic  
anomalies on or near the Continental  
Shelf.
- TR 169                   +GRAVITY MEASUREMENTS OVER THE EUROPEAN  
CALIBRATION LINE WITH LACOSTE AND  
ROMBERG GRAVITY METERS G-2, g-5, and  
g-15, by S.C. Ernberg and D.F. Hollensbe.  
1964, 28 p., \$.70.  
AD 611 106
- Detailed gravity measurements during  
summer 1963 between Sicily and Norway  
reveal instrument errors.
- TR 171                   See HOP 700 Sec. VI.
- TR 172                   #SUBMARINE GEOMORPHOLOGY OF EASTERN ROSS  
SEA AND SULZBERGEN BAY, ANTARTICA, by L.K.  
Lepley. 1966, 34 p., \$1.25.  
AD 863 508
- Describes submarine topography using  
data from Deep Freeze 61, 1960-1961;  
Marine Geophysical Investigations.  
Origins of large depressions and ridges  
are related to Pleistocene glacial history  
and structural geology.

TR 173

+BOTTOM AND SUBBOTTOM INVESTIGATION OF  
PENOBSCOT BAY, MAINE, 1959, by C. Ostericher.  
1965, 177 p., \$2.65.  
AD 863 509

Presents 168 bottom sediment results  
and records of 10 sonoprobe runs collected  
during an inshore survey in Penobscot  
Bay, Maine.

TR 174

+OCEANOGRAPHY OF THE EASTERN GREAT BAHAMA  
BANK, PART I. TEMPERATURE-SALINITY  
DISTRIBUTION, by R.F. Busby and  
G.F. Dick. 1964, 42 p., \$.80.  
AD 613 615

Delineates temperature-salinity  
distribution over a one-year period  
and outlines major factors influencing  
these distributions.

TR 180

+QUANTITATIVE ANALYSIS OF SOME  
BATHYTHERMOGRAPH ERRORS, by J.B.  
Hazelworth. 1966, 27 p., (ASWEPS  
Report No. 11) \$.60.  
AD 635 259

A statistical analysis of BT errors  
contained in data collected during eight  
3-week cruises to OWS DELTA and OWS ECHO  
between 1958 and mid-1963.

TR 182

+MATHEMATICAL MODELS FOR NAVIGATION  
SYSTEMS, by P.D. Thomas. 1965, 142 p.,  
\$2.00.  
AD 627 893

An evaluation is given of the inverse  
distance solution as used in Loran-type  
charting with extensions of formula to  
give distance and azimuths on the  
reference ellipsoid within a meter and  
a second, respectively. Also develops  
or studies latitudes and geometric  
quantities referenced on the auxiliary  
sphere-spheroid configuration.

TR 183

#WAVE HINDCAST PROJECT-NORTH ATLANTIC OCEAN  
(PROGRAM 501), by D.C. Bunting. 1966,  
35 p., \$.75.  
AD 630 431

A resumé of various phases of the  
task, the problems encountered and their  
solutions, and a summary of the final  
results.

TR 184

+THE DISTRIBUTION AND CHARACTERISTICS OF  
SURFACE BIOLUMINESCENCE IN THE OCEANS, by  
R.F. Staples. 1966, 54 p., \$.90.  
AD 630 903

An analysis of about 3,000 reports of  
bioluminescence displays on file at the  
Naval Oceanographic Office. Various aspects  
of bioluminescence, bioluminescent  
organisms, and distribution also are discussed.

TR 186

#SEDIMENTS OF THE NORTHERN ARABIAN SEA, by  
R.A. Stewart and O.H. Pilkey. 1966, 28 p.,  
\$1.00.  
AD 863 513

Discusses temperature, salinity, and  
bottom sediment data collected during USS  
REQUISITE oceanographic survey in northern  
Arabian Sea during February and March 1961.

TR 187

+SEDIMENTS AND REEF CORALS OF CAYO ARENAS,  
CAMPECHE BANK, YUCATAN, MEXICO, by R.F.  
Busby. 1966, 58 p., \$1.20.  
AD 863 512

Morphology, biota, flora, and sediments  
on and near a coral shelf reef and influence  
of wind and currents on these are evaluated.

TR 188

+TERRESTRIAL AND EARTH SATELLITE NAVIGATION  
SYSTEMS, by P.D. Thomas. 1966, 139 p.,  
\$1.80.  
AD 811 250

Satellite navigation and positioning systems  
are discussed against a background of terrestrial  
electromagnetic systems.

TR 189

+OCEAN BOTTOM RECONNAISSANCE OFF THE EAST  
COAST OF ANDROS ISLAND, BAHAMAS, by R.F.  
Busby, C.V. Bright, and A. Pruna. 1966,  
59 p., \$1.10.  
AD 804 975

Presents results of visual and photographic  
examination of the ocean bottom. Includes  
oceanographic and meteorologic data  
pertinent to underwater cable implantment.

- TR 190      #OPERATIONS DEEP FREEZE 63 AND 64, SUMMER  
OCEANOGRAPHIC FEATURES OF THE ROSS SEA, by  
K.A. Countryman and W.L. Gsell. 1966, 193 p.,  
\$1.25.  
AD 638 176
- Identification and distribution of water  
masses in the Ross Sea. Includes thermal  
structure, salinity, density, sound  
velocity, and dynamic topography data for  
200 stations.
- TR 191      +ON THE INTERPRETATION OF FETCH-LIMITED WAVE  
SPECTRA AS MEASURED BY AN AIRBORNE SEA-SWELL  
RECORDER, by T.P. Barnett and J.C. Wilkerson.  
1967, 62 p., \$1.10.  
AD 824 468
- Fetch-limited wave spectra generated by a  
steady wind were sequentially measured with  
an airborne sea-swell recorder to estimate  
rates of growth for various components of the  
wave spectrum.
- TR 192      +WAVE CLIMATOLOGY AS AN AID TO SHIP ROUTING,  
PART II. INDIAN OCEAN AND INDONESIAN SEAS,  
by P.B. Land and R.Valitski. 1967, 37 p.,  
\$.75.  
AD 646 991
- Relates climatological data to ship  
speed reduction during 4 seasonal months.  
(TR 148 (N. Atlantic Ocean) is part I of  
this series, and TR 219 (N. Pacific Ocean)  
is part III.)
- TR 193      +MAJOR CURRENTS IN THE NORTH AND SOUTH  
ATLANTIC OCEANS BETWEEN 64°N AND 60°S,  
by W.E. Boisvert. 1967, 92 p., \$1.35.  
AD 827 586
- Depicts locations, direction of flow,  
speed, and other characteristics of major  
currents in the North and South Atlantic.
- TR 194      +HEAT ABSORPTION AND HEAT BUDGET AT OCEAN  
STATION ECHO, SEPTEMBER 1959, by E.L.  
Corton. 1967, 29 p., (ASWEPS Report No.  
12) \$.70.  
AD 814 063
- BT data are used to calculate  
horizontal and vertical heat exchange in  
the ocean surface layer to a depth of 100  
feet for clear, partly cloudy, and cloudy  
skies during daylight hours.

TR 197

+AN EXAMINATION OF SYNOPTIC OCEANOGRAPHIC DATA, by G.H. Jung. 1967, 21 p., (ASWEPS Report No. 13) \$.60.  
AD 820 088

An analysis of a repeated grid of stations in the North Atlantic in July 1963 to determine horizontal conductivity effects on thermal structure.

TR 199

+A STUDY OF THE ANTILLES CURRENT USING MOORED CURRENT METER ARRAYS, by W.E. Maloney. 1967, 142 p., \$1.35.  
AD 825 564

Analyzes synoptic measurements collected with "Richardson-type" current meters 225nm east of the Bahamas during June-July 1965 and January-February 1966. Frequency distributions of current speed and direction were based on 50-second averages of current measurements collected every 10 minutes.

TR 200

+SOME SUMMER OCEANOGRAPHIC FEATURES OF THE LAPTEV AND EAST SIBERIAN SEAS, by R.C. LOCKERMAN. 1968, 52 p., \$1.20  
AD 832 199

Surveys were conducted during 1963 and 1964 to study summer oceanographic conditions. Effects of river runoff on water characteristics are emphasized.

TR 201

+OCEANOGRAPHIC SURVEY RESULTS OFF POINT ARGUELLO, CALIFORNIA, JANUARY AND NOVEMBER-DECEMBER 1964, by R.W. Thomas. 1968, 53 p., \$.90.  
AD 831 061

Analyzes results of two surveys with emphasis on currents. Contains bottom sediment logs, plankton summary tables, and current drogue summary sheets.

TR 202

+SOME RESULTS OF AN OCEANOGRAPHIC SURVEY IN THE GREENLAND SEA, SUMMER 1964, by L.A. Codispoti. 1968, 49 p., \$.90.  
AD 863 514

Deals with summer distributions of temperature, salinity, dissolved oxygen, and micronutrients. Positions of oceanographic stations are estimated.

TR 203

#OCEANOGRAPHY IN THE CHANNEL ISLANDS AREA  
OFF SOUTHERN CALIFORNIA, SEPTEMBER AND  
OCTOBER 1965, by S.G. Tooma and H. Iredale.  
1968, 50 p., \$.90.  
AD 863 515

A detailed environmental study of the  
Channel Islands area with emphasis on  
currents, sound velocity structure, and  
bottom composition.

TR 204

+COMPARISONS OF REMOTE AIRBORNE OCEANOGRAPHIC  
SENSORS, by C.F. Beckner. 1968, 39 p.,  
\$.90.  
AD 845 930

Compares a number of remote sensors  
and their applications in detecting  
oceanographic features. Includes aerial  
photographs of a Rhodamine-B dye patch  
made to determine flow characteristics.

TR 207

#AN EVALUATION OF THE 1965.0 EPOCH, H.O.  
1706 WORLD MAGNETIC VARIATION CHART, by  
D.W. Hill. 1968, 303 p., \$2.00.  
AD 839 516

Evaluates reliability of the variation  
chart by direct comparison of charted and  
observed values. Magnetic variation plays  
an important role in navigation.

TR 208

+ASWEPS SHALLOW WATER INVESTIGATION,  
VIRGINIA CAPES AREA, FEBRUARY-MARCH 1967,  
by A. Fisher, Jr. 1968, 19p., (ASWEPS  
Report No. 14) \$.60.  
AD 841 649

Oceanic thermal structure over the  
Continental Shelf off the Virginia Capes  
was investigated during late winter 1967.  
Results show that thermal structure can  
be predicted if synoptic data are  
sufficient. (Antecedent to TR 212.)

TR 209

+AN EVALUATION OF A COMPUTERIZED NUMERICAL  
WAVE PREDICTION MODEL FOR THE NORTH  
ATLANTIC OCEAN, by D.C. Bunting and L.I.  
Moskowitz. 1970, 66 p., \$.80.  
AD 879 274

A computerized wave prediction model  
is statistically analyzed by comparison  
with wave records from shipborne wave  
meters and a wave staff.

TR 210

+DETAILED THERMAL STRUCTURE OF THE WESTERN GULF STREAM REGION, by B.J. Thompson and W.H. Gemmill. 1968, 25 p., (ASWEPS Report No. 15) \$.60.  
AD 850 399

Analyzes several thermal structure characteristics observed in the western Gulf Stream region. Features include formation of a Gulf Stream meander, a warm eddy in slope water, a cool ring south of the Gulf Stream, and numerous other indications of warm and cold-water advection.

TR 211

+MODIFICATION AND UTILIZATION OF AN/SSQ-41 SONOBUOYS FOR THE COLLECTION OF VOLUME REVERBERATION DATA FROM AIRCRAFT, by E.E. Davis, J.B. Parham, and C.E. Kelly. 1968, 49 p., \$.75.  
AD 849 291

Contains results of test and feasibility studies of modified sonobuoys in the western North Atlantic for collection of volume reverberation data.

TR 212

+ASWEPS SHALLOW WATER INVESTIGATION - VIRGINIA CAPES AREA, SEPTEMBER-OCTOBER 1967, by A. Fisher, Jr. 1969, 25 p., (ASWEPS Report No. 16) \$.70.  
AD 856 924

Contains detailed thermal structure of an oceanic area over the Continental Shelf off the Virginia Capes during autumn 1967. Major features include warm surface water in the eastern portion of the area and a strong sound channel adjacent to the Continental Shelf. (Sequel to TR 208.)

TR 214

+FITTING A SET OF STRAIGHT LINES TO A DIGITAL BT PROFILE, by W.E. Yergen. 1969, 31 p., \$.60  
AD 854 628

Describes a computer algorithm for fitting straight lines to subsets of points in a digital BT profile or any kind of digital profile in order to improve quality and manageability of the National Oceanographic Data Center BT file.

- TR 215      +SATELLITES CAPABLE OF OCEANOGRAPHIC DATA  
ACQUISITION: A REVIEW, by P.E. LaViolette  
and S.E. Seim. 1969, 81 p., \$1.00.  
AD 856 133
- Discusses various U.S. satellites capable  
of remote oceanographic observation.
- TR 216      +SOME SUMMER OCEANOGRAPHIC FEATURES OF THE  
NORWEGIAN SEA, SUMMER 1963, by K.A.  
Countryman. 1969, 35 p., \$.75.  
AD 862 215
- An analysis of water mass, physical  
property, current, and nutrient data  
collected by the USS EDISTO (AGB-2).
- TR 217      #OCEANOGRAPHIC SURVEY RESULTS, KARA SEA,  
SUMMER AND FALL 1965, by D.B. Milligan.  
1969, 64 p., \$1.10.  
AD 863 641
- Presents a detailed study of the Kara  
Sea from 163 oceanographic stations occupied  
by the USCGC NORTHWIND (WAGB-282). Water  
masses of the Kara Sea are emphasized. Contains  
cross sections of temperature, salinity,  
reactive silicate, reactive phosphorus, and  
pH.
- TR 218      +THE INFLUENCE OF THE NATURAL ENVIRONMENT ON  
MAD OPERATIONS, by J.A. Brennan and T.M.  
Davis. 1969. 39 p., \$.70.  
AD 868 340
- A nonmathematical approach to the  
relationship between the natural environment  
and magnetic anomaly detectors.
- TR 219      +WAVE CLIMATOLOGY AS AN AID TO SHIP ROUTING,  
PART III. NORTH PACIFIC OCEAN, by P.B.  
Land and R. Valitski. 1969, 45 p., \$.75.  
AD 861 643
- Relates climatological data to ship speed  
reduction during 4 seasonal months. (TR 148  
(N. Atlantic Ocean) is part I of this  
series, and TR 192 (Indian and Indonesian Seas)  
is part II.)
- TR 221      +MAJOR CURRENTS OFF THE WEST COASTS OF  
NORTH AND SOUTH AMERICA, by W.E. Boisvert.  
1969, 37 p., \$.60.  
AD 866 656
- Describes eight principal currents in  
various regions from the Bering Sea to  
Cape Horn.

TR 222

+MAJOR CURRENTS ALONG THE COASTS OF NORWAY AND THE USSR TO THE KURILS, by W.E. Boisvert. 1970, 22 p., \$.50.  
AD 878 632

Depicts location, direction of flow, general speed, and other characteristics of 17 major currents.

TR 223

+AERIAL OBSERVATION OF GULF STREAM PHENOMENA-VIRGINIA CAPES AREA, OCTOBER 1968-MAY 1969, by A. Fisher, Jr. and G.A. Gotthardt. 1970, 23 p., (ASWEPS Report No. 17) \$.60.  
AD 878 968

Describes oceanographic macrofeatures observed with airborne sensors northeast of Cape Hatteras.

TR 224

+BIOLOGICAL SOUND SCATTERING STUDIES, PART I. INITIAL INVESTIGATIONS IN THE GULF OF MEXICO AND WESTERN NORTH ATLANTIC, by B.J. Zahuranec, W.L. Pugh, and G.B. Farquhar. 1970, 49 p., \$.70.  
AD 877 032

Summarizes initial (before May 1967) bioacoustic investigations of deep scattering layers (DSL). Environmental, acoustic, and biological aspects of the DSL are discussed, with emphasis on the latter.

TR 225

NUMERICAL METHODS OF PREDICTING THE NORTHERN EDGE OF THE GULF STREAM, by W.H. Gemmill. 1971, 14 p., (ASWEPS Report No. 18) \$.60.

An attempt is made to simulate and predict occurrence of Gulf Stream meanders by a numerical computer method. Establishes a simple barotropic dynamic model.

TR 226

+SPLINE INTERPOLATION ALGORITHMS FOR TRACK-TYPE SURVEY DATA WITH APPLICATION TO THE COMPUTATION OF MEAN GRAVITY ANOMALIES, by T.M. Davis and A.L. Kontis. 1970, 82 p., \$1.00.  
AD 881 287

Evaluates cubic and bicubic spline interpolation procedures for generating gridded data values and estimates of mean free air gravity anomalies. Effects of track spacing, track orientation, and down-track sampling rate on interpolation accuracy are demonstrated.

- TR 231                   +THE SOUND VELOCITY STRUCTURE OF THE NORTH  
INDIAN OCEAN, by D.F. Fenner and P.J. Bucca.  
1972, 98 p., \$1.35.  
AD 759 352
- Compares monsoonal sound velocity profiles  
and temperature-salinity diagrams for 36  
locations. Contains surface, intermediate,  
and subsurface circulation diagrams.
- TR 233                   +SYNTHETIC BATHYMETRIC PROFILING SYSTEM  
(SYNBAPS), by R.J. VanWyckhouse. 1973, 124 p.,  
\$1.75.  
AD 762 070
- Describes a computerized technique for  
rapid generation of bathymetric profiles along  
great-circle paths in order to establish a  
worldwide bathymetric data bank. Ten FORTRAN  
IV computer programs are presented. With  
slight modification the programs are applicable  
to other contoured data.
- TR 234                   +AN INVESTIGATION OF XBT ENCODING ERRORS AND  
THEIR EFFECT ON SONAR RANGE PREDICTION, by  
A. Fisher, Jr. and L. Riley. 1977, 12 p.,  
\$1.00.  
AD A036 664
- Examination of XBT data collected  
during two Fleet exercises revealed less  
than 40 percent encoding accuracy for  
radio transmission. Encoding errors are  
discussed and examples given.
- TR 237                   #THE GEOMORPHOLOGY OF JOHNSTON ATOLL, by  
S.A. Ashmore. 1973, 27 p., \$.75.  
AD 768 300
- A comprehensive bottom topography survey  
of the Johnson Island platform to 100-foot  
depths between August and November.  
Supporting unpublished data consisted  
of sounding journals, fathometer traces,  
smooth sheets, and horizontal control records.
- TR 239                   #TRACE ELEMENT EQUILIBRIUM STUDIES, by J.D.  
Gassaway. 1973, 11 p., \$1.00.  
AD 776 124
- Describes an investigation of the ability  
of certain compounds to concentrate trace  
elements from seawater to allow for their  
measurements by accepted analytical techniques.

- TR 241                   +COASTAL OCEANOGRAPHIC USE OF THE DEFENSE  
METEOROLOGICAL SATELLITE PROGRAM (DMSP),  
by O.K. Huh. 1975, 36 p., \$1.50.  
AD A024 269
- Evaluates use of the DMSP for collecting  
near real-time remotely sensed sea surface  
thermal data.
- TR 242                   +OPTIMAL SMOOTHING, A POSTSURVEY NAVIGATION  
DATA PROCESSING PROGRAM, by H.J. Byrnes  
and L. Fagin. 1975, 75 p., \$1.50.  
AD A023 752
- Provides a FORTRAN IV computer program  
technique for improved survey plots capable  
of operating in a variety of navigational  
modes, using real and simulated survey data.
- TR 245                   #SATELLITE IMAGERY AND WEATHER FOR THE BESEX  
ARE 15 FEBRUARY THROUGH 10 MARCH 1973, by  
P. Gloersen and P.E. LaViolette. Published  
by Goddard Space Flight Center, No. X910-  
74-186, 1974, 87 p. (For availability  
Contact: Technical Information Division,  
Code 250, Goddard Space Flight Center,  
Greenbelt, Md. 20771).  
AD N74-28072
- Contains satellite imagery for the Bering  
Sea Experiment (BESEX) Period. Images were  
received from the satellite at approximately  
2300 hours GMT each day.
- TR 250                   +THE EFFECT OF GEOMAGNETIC MICROPULSATIONS ON  
MAD SYSTEMS, by J.A. Brennan and K. Smits.  
1975, 19 p., \$.50.  
AD A020 972
- Summarizes relationship of geomagnetic  
disturbances observed between May 1969 and  
April 1972 to MAD used in submarine detection.
- TR 256                   EVAPORATION DUCT HEIGHT MEASUREMENTS IN THE  
MID-ATLANTIC, by C.W. Fairall, K.L. Davidson,  
G.E. Schacher and T.M. Houlihan. 1978,  
Reprinted 1980, 130 p.

LISTING OF  
PUBLICATIONS

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NAVAL OCEANOGRAPHIC OFFICE  
REFERENCE PUBLICATIONS  
(RP)

RP 1                    +BASIC ACOUSTIC OCEANOGRAPHY, by M. Schulkin.  
1975, Reprinted 1978, 73 p., \$1.75.  
AD A014 720

Comprised of notes from a graduate course in Ocean Acoustics. Introduces oceanography in an elementary and compact way, emphasizing useful and interesting features for acoustic applications.

RP 2                    ATLAS OF NORTH PACIFIC OCEAN MONTHLY MEAN  
TEMPERATURES AND MEAN SALINITIES OF THE  
SURFACE LAYER, by M.K. Robinson. 1976, 194 p.,  
(15" x 22") (73°N-4°S, 127°E-85°W), \$15.00.

Temperature charts at 100-ft depths, surface to 400 ft, based on 17 years of BT data. Annual cycle temperature curves at 5°lat. and 10°long. intervals. Mean monthly thermocline depth charts. Salinity charts for the same five depths are based on 1969 NODC hydrocast tapes. Charts of annual mean temperatures and temperature range for the five levels.

RP 3                    REGIONAL GEOLOGICAL/GEOPHYSICAL STUDY OF THE  
CARIBBEAN SEA (NAVY OCEAN AREA NA-9), 1.  
GEOPHYSICAL MAPS OF THE EASTERN CARIBBEAN,  
by J.E. Matthews and T.L. Holcombe.  
1976, 36 p. + 10 maps in pocket, \$1.00.

Seven geophysical maps and three track control maps based on all available bathymetric magnetic, and seismic reflection data for the Venezuelan Basin.

RP 7                    #THE TRAVELER'S HANDBOOK, by Middle Management  
Council. 1977, 18 p., (4" x 5").

A compendium of rules and regulations for use of NAVOCEANO field personnel. A source of travel advice and information.

RP 8                    +A NUMERICAL ICE FORECASTING SYSTEM, by D.J.  
Gerson. 1975, 152 p., \$3.00.  
AD A023 183

Forecasting aids for ice formation and thickness for 62 Arctic locations. Also provides aids for sea surface temperatures, snow depths, mean daily air temperature trends, and degree-day accumulations.

RP 8-S

#WIND DRIFT OF SEA ICE-A SUPPLEMENT TO THE  
NAVAL OCEANOGRAPHIC OFFICE NUMERICAL ICE  
FORECASTING SYSTEM, by D.J. Gerson and  
L.S. Simpson. 1976, 21 p., \$1.00.  
AD A038 019

Supplements forecasting system contained  
in RP-8.

RP 9

#STATISTICAL SUMMARY OF OCEANIC FRONTS AND WATER  
MASSES IN THE WESTERN NORTH ATLANTIC, by E.  
Khedouri, W. Gemmill, and M. Shank. 1976,  
Reprinted 1979, 27 p., \$1.00.

Spatial variability and thermal  
characteristics of the Gulf Stream and  
Slope Front are summarized to yield average  
or typical conditions. Also thermally  
related parameters, e.g., sonic layer  
depths and sound channels for each water  
mass by seasons.

RP 12

+FINAL REPORT ON MARINE BIOFOULING STUDIES  
AT ADMIRALTY INLET, WASHINGTON, by J.R.  
DePalma. 1976, 20 p., \$.50.  
AD A028 786

Summarizes test panel studies, August  
1963-June 1968. Thirty seven species collected  
and identified.

RP 13

+THEORY AND PRACTICE OF GEOPHYSICAL SURVEY  
DESIGN, by T.M. Davis. 1974, 137 p., \$3.00.  
AD A003 078

A theory for designing parallel track-  
type geophysical surveys and numerical  
algorithms for implementing surveys.

RP 14

+GRAVITY PREDICTION BY PSEUDO-DENSITY PROFILING,  
by D.W. Hill. 1975, 68 p., \$2.25.  
AD A022 869

Investigates gravity prediction in  
sparsely surveyed areas. (Master's thesis,  
Univ. of Pa.)

RP 15

+MARINE BIOFOULING STUDIES IN THE GULF OF  
SIAM, by J.R. DePalma. 1977, 17 p., \$3.00.  
AD A049 269

Summarizes test panel studies in North  
Gulf of Siam, 1968-1972. Fifty two species  
collected and identified.

- RP 16                   #REGIONAL GEOLOGICAL MAPS OF THE NORTHEAST  
PACIFIC (NAVY OCEAN AREA NP-9), by W.T.  
Morton and A. Lowrie. 1978, 27 p., (15" x 20")  
(29°N-49°N, 115°E-150°E) \$3.00.  
AD A062 095
- Nine geophysical and geological maps  
based on all available bathymetric, magnetic,  
seismic reflection, and core sample data.
- RP 17                   +AERIAL ICE RECONNAISSANCE AND SATELLITE ICE  
INFORMATION MICROFILM FILE, by P.A. Mitchell.  
1976, 33 p.  
AD A037 300
- Supplements Arctic data contained in the  
SP-70 series (discontinued 1971) and Antarctic  
data in the SP-80 series discontinued 1969).
- RP 17(76)               -1977, 18 p.  
AD A043 046
- (Supplements RP 17 to end of calendar 1976.)
- RP 17(77)               -1978, 6 p.
- (Supplements RP 17 to end of calendar 1977.)
- RP 18                   #ATLAS OF NORTH ATLANTIC-INDIAN OCEAN MONTHLY  
MEAN TEMPERATURES AND MEAN SALINITIES OF THE  
SURFACE LAYER, by M.K. Robinson, R.A. Bauer,  
and E.H. Schroeder. 1979, 234 p., (15" x 22")  
(73°N-4°S, 100°W-103°E) \$70.00.
- Temperature charts at 100-ft depths,  
surface to 492 ft, based on 28 years of  
BT data. Annual cycle temperature curves  
at 5° lat. and 10° long. intervals. Mean monthly  
thermocline depth charts. Salinity charts  
for the same six depths are based on 1969  
NODC hydrocast tapes. Charts of annual  
mean temperatures and temperature ranges for  
the six levels.
- RP 19                   #THE ICAPS WATER MASS HISTORY FILE, by A.  
Fisher, Jr. 1978, 61 p., \$3.00.
- Discusses Integrated Command Antisubmarine  
Warfare Prediction System.
- RP 20                   #OCEANOGRAPHIC ANALYSIS MANUAL FOR ON-SCENE  
PREDICTION SYSTEMS, by A. Fisher, Jr.  
1978, 93 p., \$3.00.
- Provides basic techniques and sample for  
applying oceanographic analyses to acoustic  
performance prediction with particular emphasis  
on quality control of XBT data.

- RP 21                   #GUIDE TO COMMON SHIPBOARD EXPENDABLE  
BATHYTHERMOGRAPH (SXBT) RECORDING  
MALFUNCTIONS, by S.M. Kroner and B.P.  
Blumenthal. 1978, 46 p.
- An aid to discern SXBT good data from  
bad data. Describes erroneous traces  
and simplest methods of rectifying most  
common problems.
- RP 24                   #PROGRAM OPERATING PROCEDURES FOR THE  
INTEGRATED COMMAND ASW PREDICTION SYSTEM  
(ICAPS), Vol. I. 1979, 200 p.
- Detailed instructions for ICAPS  
minicomputer programs for rapid on-scene  
analysis of oceanographic data.
- RP 29                   THE ACOUSTIC REFERENCE SERVICE, A SUBSET OF  
THE OCEANOGRAPHIC MANAGEMENT INFORMATION  
SYSTEM, by P.S. Vinson. 1980, 32 p.
- Uses NAVOCEANO computer facilities to  
contribute an inventory of underwater acoustic  
data and associated environmental measurements.  
Provides information concerning the existence,  
density, location and status of acoustic data.  
Final reports, scientific papers, on-line  
data bases, cognizant persons, and contact  
procedures are identified.
- RP 30                   INDIAN OCEAN GEOLOGICAL, GEOPHYSICAL, AND  
OCEANOGRAPHIC DATA CATALOG, USNS WILKES,  
1977-1979, by L. Little, N.J. DiPiazza,  
W.J. Vestal, and W.P. Searcy, III. 1980,  
39 p., 3 appendixes.
- A summary of the type, amount, and  
location of the environmental data collected  
by the USNS WILKES (T-AGS 33) during surveys  
in the Indian Ocean from May 1977 to  
December 1979.
- RP 134-18-5           +ASPECTS OF SOUND SPEED STRUCTURE AND RELATED  
WATER PROPERTIES IN THE GULF OF MEXICO,  
JUNE-DECEMBER 1969, by L.E. Jarvela  
and W. McComas. 1975, 56 p., \$2.00.  
AD A024 265
- Examines required and seasonal features of  
water properties and currents between late  
spring and autumn, with emphasis on their  
relation to sound speed structure and sound  
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